RESOLUTION NO. - _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASADENA CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT, ADOPTING FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND ADOPTING A MITIGATION MONITORING AND REPORTING PROGRAM FOR THE PASADENA NON-POTABLE WATER PROJECT AS DESCRIBED IN THE FINAL ENVIRONMENTAL IMPACT REPORT.

Section 1. The proposed "Project" consists of the construction and operation of a new non-potable water distribution system to deliver recycled water produced by the Los Angeles/Glendale Water Reclamation Plant, tunnel water from Devils Gate and Richardson Springs, and surface water from Arroyo Seco stream to customers within the services areas of Pasadena Water and Power, Lincoln Avenue Water Company, Foothill Municipal Water District, and California American Water Company for landscape irrigation, cooling, and other non-potable uses.

Section 2. On August 28, 2014, a Notice of Preparation ("NOP") was distributed to the State Office of Planning and Research and responsible agencies, filed with the County Clerk, and mailed and emailed to a total of 213 neighborhood associations, committees, and individuals that may have a concern or interest in the Project, and advertisements on the NOP were published in the Pasadena Star News on August 28, 2014 and September 4, 2014 and in the Pasadena/San Gabriel Journal on August 28, 2014, and the NOP was posted on two of the City of Pasadena's webpages. The NOP was circulated from August 28, 2014 through September 29, 2014 to receive input from interested public agencies and private parties on issues to be addressed in the Environmental Impact Report ("EIR"). In addition, public scoping meetings were held on Saturday, September 6, 2014 and Wednesday, September 10, 2014 to provide information on the Project and to receive additional comments on issues to be addressed in the EIR.

Section 3. A Draft Environmental Impact Report (the "DEIR") was prepared for the Project and released for public review on June 30, 2015. In accordance with the California Environmental Quality Act ("CEQA") (Cal. Pub. Res. Code §21000 *et seq.*) and the State

Guidelines (the "Guidelines") (14 Cal. Code Regs. §15000 *et seq*.) promulgated with respect thereto, the City analyzed the Project's potential impacts on the environment.

Section 4. A Notice of Completion of the DEIR was filed with the State Clearinghouse on June 29, 2015. The City circulated the DEIR and the Appendices for the Project to the public and distributed the DEIR to responsible and trustee agencies, other affected agencies, surrounding cities, as well as all parties requesting a copy of the DEIR and other interested parties, for a 60-day comment period, in accordance with CEQA 21161 and Guidelines Section 15105, from June 30, 2015 through August 31, 2015, then extended by two weeks to September 14, 2015 in response to direct requests from community members, for a total comment period of 74 days. The DEIR was made available during the comment period in print at Pasadena Water and Power, Pasadena Central Library, Linda Vista Library, and online at two of the City's webpages. In addition during the extension period the DEIR was made available in print at La Pintoresca Library as requested by community members.

Section 5. A joint Notice of Availability and Notice of Public Meeting was published in the Pasadena Star News on page 2 on Sunday, June 21, 2015, and as an advertisement on June 28, 2015, and in the Pasadena/San Gabriel Journal on June 25, 2015, was mailed to 621 residents and community organizations, was filed with the County Clerk, and was included in noticing to all entities receiving the DEIR. During the comment period the DEIR was presented at two public meetings. A noticed public workshop to solicit additional comments on the Project was held on August 13, 2015, and a targeted community workshop (for local neighborhood associations) was held on August 26, 2015.

Section 6. The City prepared written responses to all comments received on the DEIR and those responses to comments are incorporated into the Final Environmental Impact Report (the "Final EIR"), which is comprised of the DEIR dated June 30, 2015 and its appendices (Volume I), along with Comment Letters and Responses to Comments (including Clarifications, Revisions, and Corrections to the DEIR) (Volume II). The Responses to Comments were distributed to all public agencies that submitted comments on the DEIR on December 23, December 24, December 28 and January 4, 2016, at least 10 days prior to certification of the Final EIR as required by Guideline 15088.

Section 7. On February 9, 2016, the Municipal Services Committee reviewed the Final EIR and related actions as described below (the "Related Actions"). At that meeting, the Municipal Services Committee recommended the City Council: adopt a resolution to certify the Final EIR, adopt the findings pursuant to CEQA, and adopt the Mitigation Monitoring and Reporting Program; approve the Pasadena Non-Potable Water Project as described in the EIR; direct the Clerk to file a Notice of Determination within five days; confirm the exercise of the option to extend the existing Reclaimed Water Participation Agreement No. 15,075 with the City of Glendale for an additional 25 years; adopt a resolution to authorize the General Manager of Pasadena Water and Power to apply to federal, state and local agencies for available grant and loan funding; and direct the City Attorney to draft a mandatory recycled water use ordinance for the Project within 60 days.

Section 8. On February 22, 2016, the City Council held a duly noticed public hearing to consider the Final EIR and the Related Actions. Evidence, both written and oral, including the staff reports and supporting documentation was presented at that hearing.

Section 9. The findings made in this Resolution are based upon the information and evidence set forth in the Final EIR and upon other substantial evidence that has been presented at the hearings and in the record of the proceedings. The documents, staff reports, technical studies, appendices, plans, specifications, and other materials that constitute the record of proceedings on which this Resolution is based are on file for public examination during normal business hours at the office of Pasadena Water and Power at 150 S. Los Robles Avenue, Suite 200, Pasadena, California 91101. The custodian of records is Roumiana Voutchkova with Pasadena Water and Power. Each of those documents is incorporated herein by reference.

Section 10. The City Council finds that agencies and interested members of the public have been afforded ample notice and opportunity to comment on the EIR and the Project.

Section 11. Environmental impacts identified in the Final EIR that are found to be less than significant and do not require mitigation are described in Sections IV and V of Exhibit A, attached hereto and incorporated herein by reference.

Section 12. Environmental impacts, or certain aspects of impacts, identified in the Final EIR as potentially significant, but that can be reduced to less than significant levels with mitigation, are described in Section VI of Exhibit A, attached hereto and incorporated herein by reference.

Section 13. No environmental impacts have been identified in the Final EIR as significant and unavoidable despite the imposition of all feasible mitigation measures. All potentially significant impacts of the proposed Project can be mitigated to less than significant levels, and no Statement of Overriding Considerations is required.

Section 14. Alternatives to the Project that were considered are described in Section IX of Exhibit A, attached hereto and incorporated herein by reference.

Section 15. Public Resources Code Section 21081.6 requires the City to prepare and adopt a mitigation monitoring and reporting program for any project for which mitigation measures have been imposed to assure compliance with the adopted mitigation measures. The Mitigation Monitoring and Reporting Program is attached hereto as Exhibit B, and is hereby incorporated herein by reference.

Section 16. Prior to taking action, the City Council reviewed, considered and has exercised its independent judgment in considering the Final EIR and all of the information and data in the administrative record, and all oral and written testimony presented to it during meetings and hearings and finds that the Final EIR is adequate and was prepared in full compliance with CEQA. No comments or any additional information submitted to the City have produced any substantial new information requiring additional recirculation or additional environmental review of the Project under CEQA.

Section 17. **NOW THEREFORE, BE IT RESOLVED THAT** the City Council of the City of Pasadena, California, hereby certifies the Final Environmental Impact Report, adopts findings pursuant to the California Environmental Quality Act as set forth in Exhibit A attached hereto and incorporated herein by reference; and adopts the Mitigation Monitoring and Reporting Program attached hereto as Exhibit B and incorporated herein by

reference. The mitigation measures set forth in the Final EIR and the Mitigation Monitoring and Reporting Program are hereby incorporated into the Project and made conditions of the Project.

Adopted at the _____ meeting of the City Council on the ___ day of February, 2016 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Mark Jomsky, CMC
City Clerk

APPROVED AS TO FORM:

_____
Theresa E. Fuentes
Assistant City Attorney

EXHIBIT A

Findings and Facts in Support of Findings

I. Introduction.

The California Environmental Quality Act ("CEQA") and the State CEQA Guidelines (the "Guidelines") provide that no public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that will occur if a project is approved or carried out unless the public agency makes one or more of the following findings:

A. Changes or alterations have been required in, or incorporated into, the project which avoid[1] or substantially lessen the significant environmental effects identified in the Environmental Impact Report ("EIR").

B. Such changes or alterations are within the responsibility of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

C. Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the EIR.[2]

Pursuant to the requirements of CEQA, the City Council hereby makes the following environmental findings in connection with the proposed Project. These findings are based upon evidence presented in the record of these proceedings, both written and oral; the Final EIR which is comprised of the DEIR dated June 30, 2015 and its appendices (Volume I); Comment Letters and Responses to Comments (including Clarifications, Revisions, and Corrections to the DEIR) (Volume II), the Mitigation Monitoring and Reporting Program; and staff and consultants' reports presented through the hearing process.

A Mitigation Monitoring and Reporting Program ("MMRP") has been prepared for the proposed Project, and is adopted by the City of Pasadena City Council concurrent with adoption of these Findings. The City (through Pasadena Water and Power ("PWP")) will use the MMRP to track compliance with the proposed Project mitigation measures. The MMRP will remain available for public review during the compliance period.

Each member of the Pasadena City Council was provided with a copy of the Draft EIR in June 2015 and a complete copy of the Final EIR in December 2015. The City Council hereby finds that the Final EIR has been completed in compliance with CEQA, reflects the Council's

[1] For purposes of these Findings, the term "avoid" refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant environmental effect to a less than significant level.

[2] Cal. Pub. Res. Code § 21081; 14 Cal. Code Regs. § 15091.

independent judgment, and that the Council has independently reviewed and analyzed the Final EIR prior to taking any final action with respect to the proposed Project.

II. Project Objectives.

As set forth in the EIR (Draft EIR *Chapter 2, Project Description*), the proposed Project is intended to fulfill its primary purpose to minimize PWP's long-term water supply challenges caused by droughts, environmental regulations, climate change, decreasing groundwater levels, and groundwater contamination by achieving the following project objectives (the "Project Objectives"):

A. Maximize the use of local water supplies and the use of PWP's existing water rights;

B. Reduce reliance on imported water from Metropolitan Water District ("MWD"); and

C. Improve water supply reliability by developing a new local, cost effective, dependable, environmentally sustainable water source that will be available even in droughts for irrigation and other non-potable uses.

The City Council finds the project objectives to be acceptable and important from a public policy standpoint and accords them weight in considering and approving the EIR.

III. Background

The *Pasadena Non-Potable Water Project* involves the construction and operation of a new non-potable water distribution system to deliver water from three local water sources to customers within the service areas of PWP, Foothill Municipal Water District and their member agencies (including Lincoln Avenue Water Company, Valley Water Company, Las Flores Water Company, and Rubio Canyon Land and Water Association), and California American Water Company for landscape irrigation, cooling, and other non-potable uses:

(1) recycled water produced by the Los Angeles/Glendale ("LAG") Water Reclamation Plant,

(2) tunnel water from Devils Gate and Richardson Springs, and

(3) surface water from Arroyo Seco stream.

The three water supplies included within the proposed Project (recycled water, tunnel water, and surface water) are collectively referred to as "non-potable water supplies".

The proposed Project footprint consists of up to a 40-foot wide corridor that follows each pipeline segment, along with proposed non-potable water storage, pressure reducing station/hydro-turbine facilities, and pumping facilities. Build-out of the proposed Project would supply over 3,000 acre-feet per year ("AFY") of non-potable water from the three supply sources to approximately 50 customers. The proposed Project includes phased construction of new non-

potable water infrastructure including pipelines, storage reservoirs, pressure reducing stations, and pump stations, and consists of the following six phases:

- Phase I Project[3]
- Phase II - Southern Extension I[4]
- Phase III - Southern Extension II
- Phase IV - Annandale Extension
- Phase V - Northwestern Extension
- Phase VI - Northeastern Extension

IV. Effects Determined to be Less Than Significant/No Impact in the EIR.

The City of Pasadena issued a Notice of Preparation ("NOP") and prepared an EIR to determine the potential environmental effects of the Project. In the course of this evaluation, the Project was found to have no impact in certain impact categories because a project of this type and scope would not create such impacts or because of the absence of project characteristics producing effects of this type. The following effects were determined not to be significant or to be less than significant, and were not analyzed in the EIR because they require no additional analysis to determine whether the effects could be significant.

A. AESTHETICS

1. The Project will not fail to conform to adopted Design Guidelines or zoning requirements.

B. AGRICULTURAL RESOURCES

1. The Project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance ("Farmland"), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

2. The Project will not conflict with existing zoning for agricultural use or a Williamson Act contract.

3. The Project will not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526) or by timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

[3] Phase I is examined at a more detailed, project-level in the EIR.

[4] Phases II through VI are examined at a more general, program-level in the EIR, and will require more detailed, project-level environmental review prior to implementation.

4. The Project will not result in the loss of forest land or conversion of forest land to a non-forest use.

5. The Project will not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, including commercial nurseries, to nonagricultural use or conversion of forest land to non-forest use.

C. BIOLOGICAL RESOURCES

1. The Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

D. GEOLOGY AND SOILS

1. The Project will not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

E. HAZARDS AND HAZARDOUS MATERIALS

1. The Project will not be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, which would result in a safety hazard for people residing or working in the project area.

2. The Project will not be located within the vicinity of a private airstrip, which would result in a safety hazard for people residing or working in the project area.

F. HYDROLOGY AND WATER QUALITY

1. The Project will not place housing within a 100-year flood hazard area mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

2. The Project will not place within a 100-year flood hazard area structures which would impede or redirect flood flows.

3. The Project will not expose people or property to inundation from seiche, tsunami, or mudflow.

G. LAND USE AND PLANNING

1. The Project will not conflict with any applicable habitat conservation plan or natural community conservation plan.

H. MINERAL RESOURCES

1. The Project will not result in the loss of availability of a known mineral resource identified in Mines and Mineral Producers Active in California (Department of Conservation, Division of Mines and Geology 1996) or that would be of value to the region and the residents of the state.

2. The Project will not result in the loss of availability of a locally-important mineral resource recovery site delineated as a "Resource Production Area" in the Regional Comprehensive Plan and Guide, or as a "Mineral Resource Zone" in the City of Pasadena Comprehensive General Plan or any adopted elements of this plan or identified by any EIRs certified for these elements or plan or on any other local general plan, specific plan, or other land use plan.

I. NOISE

1. The Project will not expose people to excessive noise near a public-use airport or private airstrip.

J. POPULATION AND HOUSING/GROWTH INDUCEMENT

1. The Project will not displace substantial numbers of housing units, necessitating the construction of replacement housing elsewhere.

2. The Project will not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

K. PUBLIC SERVICES

1. The Project will not require new or expanded school facilities to serve the project in addition to existing commitments.

L. RECREATION

1. The Project will not substantially increase the need to provide maintenance and services to existing parks that cannot be supported by existing or proposed funding mechanisms.

2. The Project will not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial deterioration of the facility would occur or be accelerated.

3. The Project will not involve recreational facilities or the construction or expansion of recreational facilities to adequately serve the project in addition to existing patrons, and the construction of which might have adverse physical effects on the environment.

4. The Project will not induce growth such that recreational facilities within the City or near adjacent communities will experience adverse environmental impacts due to overuse.

M. TRANSPORTATION AND TRAFFIC

1. The Project will not 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.

2. The Project will not cause alterations to waterborne or rail traffic.

3. The Project will not create a demand for new parking.

N. UTILITIES AND SERVICE SYSTEMS

1. The Project will not have insufficient water supplies available to serve the project from existing entitlements and resources, thus requiring new or expanded entitlements.

2. The Project will not be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

3. The Project will comply with federal, state, and local statutes and regulations related to solid waste.

V. Effects Determined to be Less Than Significant Without Mitigation in the EIR.

The EIR found that the proposed Project would have a less than significant impact without the imposition of mitigation on a number of environmental topic areas listed below. For some of these environmental topics, regulatory measures are required to be implemented, and will have the effect of ensuring that the less than significant impacts remain less than significant. A less than significant environmental impact determination was made for each of the following topic areas listed below, based on the more expansive discussions contained in the Final EIR.

A. AESTHETICS

1. Lighting for the Project will comply with applicable standards and codes, and the Project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. (**Impact 3.1-2**).

B. AIR QUALITY

1. Project construction and operation will not exceed the South Coast Air Quality Management District's ("SCAQMD's") mass daily thresholds, and will not conflict with or obstruct implementation of the applicable air quality plan. (**Impact 3.3-1)**.

2. Project construction and operations will not violate SCQAMD thresholds for volatile organic compounds ("VOCs"), nitrogen oxides ("NOx"), carbon monoxide ("CO"), fine particulate matter (PM_{10}), or ultra-fine particulate matter ("$PM_{2.5}$"), and will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. (**Impact 3.3-2).**

3. Project construction and operation will not exceed SCAQMD thresholds for ozone ("O_3") or its precursors (VOCs and NOx), and will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable ambient air quality standard. (**Impact 3.3-3).**

4. Project construction could expose sensitive receptors to particulate matter and NOx emission, but these would be within applicable standards, thus the Project will not expose sensitive receptors to substantial pollutant concentrations. (**Impact 3.3-4).**

5. The project will not create objectionable odors affecting a substantial number of people. (**Impact 3.3-5).**

C. LAND USE

1. The Project will not physically divide an established community.

2. The Project will not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Project.

D. BIOLOGICAL RESOURCES

1. The Project will not conflict with any local policies or ordinances protecting biological resources, such as a Tree Protection Policy or Ordinance. (**Impact 3.4-5)**.

E. GEOLOGY AND SOILS

1. The Project will comply with the Construction General Permit and all Best Management Practices ("BMPs") identified in the required Storm Water Pollution Prevention Plan ("SWPPP") and will not result in substantial soil erosion or loss of topsoil. (**Impact 3.6-2)**.

2. The Project is not located on expansive soil, and would therefore not create substantial risks to life or property. (**Impact 3.6-4).**

F. GREENHOUSE GAS EMISSIONS ("GHG")

1. The Project will not generate GHG emissions that may have a significant impact on the environment. (**Impact 3.7-1)**.

2. The Project will not conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing GHG emissions. (**Impact 3.7-2).**

3. The Project will not preempt future energy development or future energy conservation. (**Impact 3.7-3).**

G. HAZARDS AND HAZARDOUS MATERIALS

1. The Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., from placing structures or persons in the danger zone of a site known to store, handle, or possess hazardous substances of an explosive or fire prone nature). (**Impact 3.8-1)**.

H. HYDROLOGY AND WATER QUALITY

1. The Project will not result in a net extraction of known groundwater resources or involve excavation within an active groundwater recharge area. (**Impact 3.9-2)**.

2. The recycled water to be diverted from LAG comprises a nominal proportion (3 percent) of Los Angeles River; the Project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, resulting in substantial erosion or siltation. (**Impact 3.9-3).**

3. Storm drainage facilities for the Project will comply with City's MS4 Permit; the Project will not alter the existing drainage pattern of the site or area, increasing the rate or amount of surface water runoff in a manner that could result in flooding on- or off-site. (**Impact 3.9-4).**

4. The Project is not within the Federal Emergency Management Agency ("FEMA") flood zone and will not expose people or structures to loss, injury, or death involving flooding. (**Impact 3.9-5).**

5. The Project will not contribute to reduce flows to less than 0.3 cfs (established water budget) to the Lower Arroyo Restoration Project and therefore will not impact the Lower or Central Arroyo Stream Restoration Projects. (**Impact 3.9-6).**

6. Municipal water supply is available to the Arroyo Seco Golf Course; tunnel water diversions from the Project will not adversely affect the Arroyo Seco Golf Course. (**Impact 3.9-7).**

I. LAND USE AND PLANNING

1. The Project involves construction of non-potable water supply infrastructure and will not physically divide an established community. (**Impact 3.10-1)**.

2. The Project will 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 program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (**Impact 3.10-2).**

J. POPULATION AND HOUSING/GROWTH INDUCEMENTS

1. The Project will not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). (**Impact 3.13-1)**.

2. The Project will not have a growth in population or housing that is inconsistent with the housing, land use, or mobility elements of the City of Pasadena Comprehensive General Plan or that is inconsistent with any specific plans implementing the land use element; or Substantially alter the location, distribution, density, or growth rate of the population of the area. (**Impact 3.13-2).**

K. PUBLIC SERVICES

1. The Project will not require new or expanded fire protection or police facilities to serve the project in addition to existing commitments. (**Impact 3.14-1)**.

L. UTILITIES AND SERVICE SYSTEMS

1. The Project does not have potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board; result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments; or require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities *beyond those included in the EIR*, the construction of which could cause significant environmental effects. **(Impact 3.17-1)**.

2. The Project would comply with the City's MS4 Permit and does not have potential to result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (**Impact 3.17-2).**

M. ENVIRONMENTAL JUSTICE

1. The Project will not cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively. (**Impact 3.18-1)**.

VI. Potentially Significant Environmental Impacts Determined to be Mitigated to a Less Than Significant Level.

The EIR identified the potential for the Project to cause significant environmental impacts in the areas of (A) Aesthetics, (B) Biological Resources, (C) Cultural Resources, (D) Geology and Soils, (E) Hazards and Hazardous Materials, (F) Hydrology and Water Quality, (G) Noise, (H) Recreation, (I) Transportation and Traffic, and (J) Utilities and Service Systems.

The EIR also identified the potential for the Project to degrade the environment, have impacts that would be individually limited but cumulatively considerable, and have environmental impacts which will cause substantial adverse effects on human beings, either directly or indirectly, each of which would require a mandatory finding that the Project may have a significant effect on the environment, as set forth in CEQA Guideline 15065 ("Mandatory Findings of Significance").

The City Council finds that the feasible mitigation measures for the Project identified in the Final EIR will reduce the Project's impacts in all impact areas to a less than significant level, as described below. In Section 17 of the Resolution, the City Council adopts all of the feasible mitigation measures for the Project described in the Final EIR as conditions of approval of the Project and incorporates those into the Project.

Note that the Findings below do not attempt to describe the full analysis of each environmental impact contained in the Final EIR. Instead, the Findings provide a summary description of each impact, describe the applicable mitigation measures identified in the Final EIR, and state findings on the significance of each impact after imposition of the adopted mitigation measures. A full explanation of these environmental findings and conclusions can be found in the Final EIR.

A. AESTHETICS

1. Potential for substantial damage to scenic vista, scenic resources, and/or degradation of the existing visual character or quality of the site and its surroundings (**Impact 3.1-1**)

Without mitigation, the Project has the potential to result in adverse impacts to visual quality in the vicinity of aboveground facilities (Phase I, IV-Annandale, and V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.1-1** and **3.5-2a**, which will avoid short- and long-term visual impacts. Implementation of these mitigation measures would reduce potential impacts to **less than significant**.

Mitigation Measure 3.1-1: Vegetation Screening and Design Features to Reduce Visual Impacts. Prior to construction, PWP's contractor will submit design plans to the City of Pasadena's Department of Public Works for review and approval. The contractor will also work with any other potentially affected jurisdictions within the Study Area (City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena) to ensure that the jurisdictions concur with the conclusions of the design plans. Relevant adopted design guidelines and municipal codes will be used in preparing the design plans to determine vegetation type, spacing, and height.

The design plans will stipulate vegetation screening and design features that will be implemented to ensure that the post-construction visual setting of the Study Area is not substantially impacted beyond existing conditions. Landscaping specified in the design plans will include re-vegetation of disturbed areas to minimize contrasts with the existing vegetation and to screen facilities from surrounding neighborhoods. In addition, proposed facilities will be painted low-glare earth-tone colors that blend with the surrounding terrain, consistent with existing reservoirs.

b. Facts in Support of Findings

The majority of proposed Project facilities would be located belowground within roadway right-of-ways ("ROWs"). Pipeline extensions located within streets identified as official/unofficial scenic corridors or having notable view corridors will not cause permanent change, but construction activities could cause temporary (but not uncommon) visual impacts. Pipelines will not change the existing character of listed historic resources, nor would they impact views of sites and their surroundings. Aboveground facilities would exist at pump station, reservoir, wet well, and pressure reducing station sites. Facilities would be designed consistent with applicable adopted design guidelines and municipal codes, and would generally be integrated with existing structures. Visual simulations of the pressure reducing station and hydroelectric turbine facility at Washington Blvd. and West Dr. show that the visual quality of the site would be altered. The Sheldon Non-Potable Water Reservoir and chlorine boosting facility would be partially buried, and screened, but may have some visual impacts due to proximity to nearby residences. Visual simulation included in the Final EIR showed no substantial detraction of existing visual quality of the site. The Study Area would be restored to pre-construction conditions once construction is complete.

Mitigation Measure 3.1-1 will reduce impacts to scenic vistas or scenic resources by requiring that design plans be approved by affected jurisdictions for compliance with visual requirements, and that all aboveground facilities that could affect the visual character of an area be designed to be consistent with the existing visual character. Mitigation Measure 3.5-2a will require the pressure reducing station, Brookside booster pump station, the hydroelectric generation turbine, and tunnel water pump station be designed to help maintain the existing aesthetics associated with the Arroyo Seco Flood Control Channel, and such that the facilities will not dominate the viewshed. This would reduce potential visual impacts and will not detract from the existing visual character of the area. Together these mitigation measures would reduce the potential impact to scenic resources to a less than significant level.

B. BIOLOGICAL RESOURCES

1. Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife ("CDFW") or U.S. Fish and Wildlife Service ("USFWS") (**Impact 3.4-1**).

Without mitigation, the Project has the potential to result in disturbance to coast horned lizard habitat (Phase I), habitat for sensitive plants (Phase V-Northwestern), coastal California gnatcatcher and bat roosting habitats (Phase V-Northwestern).

a. **Findings**

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.4-1a, 3.4-1b,** and **3.4-1c**, mitigating the impact to **less than significant**.

Mitigation Measure 3.4-1a: Pre-construction Surveys for Sensitive Wildlife Species, Coast Horned Lizard (Phase I Project). PWP will conduct pre-construction special-status reptile surveys for presence of coast horned lizard in areas where suitable native habitat occurs no more than 30 days prior to the commencement of project construction. Habitat types suitable for the coast horned lizard include chaparral, scrub, woodlands, and grasslands with open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects. These areas generally occur along the Phase I alignment west of Afton Street and the Art Center College of Design. If any of these animals are detected, they will be relocated to undeveloped areas prior to the commencement of construction, and provisions will be made to prevent their reentry to the site, such as by the placement of silt fencing or other means that would provide a physical barrier to movement.

Mitigation Measure 3.4-1b: Habitat Assessments and Focused Surveys for Sensitive Plant Species (Phase V – Northwestern Extension). For the Northwestern Extension, PWP will conduct habitat assessments and focused surveys (where suitable habitat is present) for sensitive plant species prior to the initiation of construction within areas supporting native habitat, such as the area associated with the Jet Propulsion Laboratory ("JPL") reservoir pipeline and small area behind Behner Water Treatment Plant ("Behner WTP"). Surveys will be conducted in accordance with provisions contained within *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). If there are no sensitive species on the site, no further mitigation is required. In the event that sensitive plant species are found on site, they would be avoided to the extent practicable, such as through modifying the pipeline alignment to avoid sensitive species habitat or utilizing trenchless methods for sensitive habitat crossings. Should it be infeasible to avoid impacts that are determined to be significant, an effective mitigation plan would be required. If required, measures to mitigate significant impacts to sensitive plant species will include the

preparation of a Revegetation and Monitoring Plan ("RMP"). The RMP will be consistent with recommendations provided by the CDFW, professional restoration ecologists, and professional botanists familiar with the potentially impacted species. Mitigation ratios will be at least 1:1 for number of individuals impacted. Specific measures to be included in the RMP would include one or more of the following elements, as appropriate for the species and population size.

- Protection of mitigation "set asides" (land conserved into perpetuity) and transplantation receiver site(s), including the recordation of a conservation easement or deed restriction and related best management practices (BMPs) such as protective fencing;

- The selection of a transplantation receiver site or sites. These sites will be chosen with an emphasis placed on both ecological suitability to allow for maximum survival rate of transplants as well as the minimization of impacts to existing quality habitat;

- Collection of seed, cuttings, or entire plants from Study Area; and

- Propagation of species from seed or cutting by an approved nursery or botanical garden (e.g., Rancho Santa Ana Botanic Garden) for future transplantation to receiver sites.

The RMP will contain mapping of plant species locations at the project site; monitoring requirements for assessing mitigation success; and performance metrics to measure mitigation success.

Mitigation Measure 3.4-1c: Assessments and Focused Surveys for Sensitive Wildlife Species (Phase V – Northwestern Extension). For the Northwestern Extension, PWP will conduct habitat assessments and focused surveys (where suitable habitat is present) for sensitive wildlife species (specifically the coastal California gnatcatcher) prior to the initiation of construction within areas supporting native habitat, such as the area associated with the JPL reservoir pipeline and small area behind Behner WTP. Habitat types suitable for the California gnatcatcher include coastal sage scrub, while suitable habitat for other sensitive wildlife species generally include native chaparral, scrub, woodlands, and grasslands. These surveys will be conducted by a qualified biologist in accordance with appropriate USFWS or CDFW provisions. In the event that sensitive wildlife species are found on-site, if it is infeasible to avoid impacts and impacts are determined to be significant, mitigation will be required by the lead agency.

If present, mitigation for coastal California gnatcatcher will include on- and/or off-site creation, restoration, enhancement, and/or preservation of coastal California gnatcatcher habitat at a ratio no less than 3:1 for permanent impacts. Mitigation for potential impacts to federally-listed species (i.e., the coastal California gnatcatcher) would require a Section 7 Consultation (if a federal nexus is established from an "agency action"). Since PWP is applying for federal funding from the United States Bureau of

Reclamation ("USBR"), a Section 7 Consultation would be required. The Section 7 process requires a Biological Assessment and consultation with the USFWS, which will issue a Biological Opinion.

To avoid the direct loss of special-status bat species that could result from disturbance to maternity roost habitat (e.g., trees, structures, tunnels), disturbance will be scheduled between October 1 and February 28, outside of the maternity roosting season. If disturbances are to occur during maternity season from March 1 to September 30, at least one night emergence survey must be performed by a qualified biologist a minimum of three days prior to the commencement of project construction to determine bat presence/absence. Any maternity roosts within the development footprint and a 200-foot buffer will be left in place and undisturbed until the end of the maternity season.

Prior to issuing a permit to clear vegetation, the City of Pasadena will verify that any necessary surveys for wildlife species have been conducted and an effective mitigation plan has been prepared if sensitive wildlife species are found during the focused surveys. An effective mitigation plan would include provisions for avoidance, on- and/or off-site habitat creation, restoration, enhancement, and/or preservation at a ratio no less than 3:1 for permanent impacts. Mitigation for potential impacts to federally-listed species will be in accordance with the Federal Endangered Species Act. In the event the surveys determine the absence of sensitive species from the site, no further mitigation is warranted.

b. **Facts in Support of Findings**

Two sensitive plants were observed within the Study Area (Southern California black walnut and San Gabriel Mountains leather oak), which are Protect Trees and require a Tree Protection Plan under the City of Pasadena City Trees and Tree Protection Ordinance. No trees were identified as impacted by the Project within the City of Glendale. There is limited suitable habitat for sensitive animal species, and limited extent of impacts to habitat area from the proposed Project. Coast horned lizard was the only identified sensitive species with the potential to exist in the Study Area that lacks the mobility to escape construction activity. No California gnatcatchers were identified within the Phase I Study Area. Of the Future Extensions, only the Northwestern Extension was identified as having natural habitat that could contain sensitive plant or animal species, and would require focused special-status plant and wildlife species surveys to be conducted. Mitigation Measure 3.4-1a applies to Phase I Project, and Mitigation Measures 3.4-1b and 3.4-1c apply to the Northwestern Extension.

Mitigation Measures 3.4-1a, 3.4-1b, and 3.4-1c would require habitat assessments for sensitive plant and wildlife species in areas of native habitat within construction zones. If sensitive species are found on site, mitigation will be required to avoid, relocate, and/or mitigate impacts to sensitive species or their habitats, therefore, reducing the impact to a less than significant level.

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the

California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (**Impact 3.4-2**)

Without mitigation, the Project has the potential to result in adverse impacts to riparian habitat from construction disturbances (Phase V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.4-2**, which would reduce this impact to a less than significant level.

Mitigation Measure 3.4-2: Field Assessment and Mapping of the Native Habitats (Northwestern Extension). A field assessment following the methodology in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009), and mapping of the native habitats within the Northwestern Extension alignment will be conducted by a qualified biologist to determine the presence/absence of sensitive plant communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Revegetation and Monitoring Plan ("RMP") will be prepared prior to initiation of construction to offset impacts to those sensitive plant communities. The RMP will focus on the creation of equivalent habitats within disturbed habitat areas of the project site and/or off-site. In addition, the plan will provide details as to the implementation of the plan, maintenance, and future monitoring. Mitigation for impacts would be offset by on- or off-site replacement, restoration, or enhancement of each respective sensitive plant community at a mitigation ratio of no less than 1:1 in one or more of the following ways:

- Transplantation of the plant community species,
- Seeding of the plant community species,
- Planting of container plants of the plant community species, and/or
- Salvage of duff and seed bank and subsequent dispersal.

The preferred restoration method is seeding of the plant community species, which will be pursued as a first resort whenever practicable. The RMP will contain monitoring requirements for assessing mitigation success, and performance metrics to measure mitigation success.

b. Facts in Support of Findings

With the exception of the Northwestern Extension, the Study Area (area of disturbance) does not support riparian habitat or other sensitive natural communities, and will not have direct impacts on such habitats and communities. Indirect impacts could occur to the Central and Lower Arroyo Restoration Projects due to diversion of tunnel water from the Arroyo Seco channel. The Lower Arroyo Restoration Project was

designed for a 0.3 cfs flow. Diversion of tunnel water by the Project would be restricted from July through September, as necessary, to ensure that the Project will not contribute to flows less than 0.3 cfs to the Lower Arroyo Restoration Project. As part of the Project's O&M program, PWP will monitor flows to the Lower Arroyo Restoration Project during restricted months (July through September) and shoulder months, as necessary. PWP will also implement the CRAM Assessment and Monitoring Program for Central and Lower Arroyo Seco to better inform resource management decisions of any potential changes to the Central and Lower Restoration Project areas subsequent to the Phase I Project implementation. Surface water diversions from the Arroyo Seco stream would be within PWP's existing water rights, and impacts of this diversion were addressed and mitigated in the *Arroyo Seco Canyon Project IS/MND*.

Mitigation Measure 3.4-2 requires that a field assessment be conducted for the Northwestern Extension to confirm presence/absence and extent of sensitive plant communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Revegetation and Monitoring Plan is required to be prepared and implemented to offset those impacts, reducing the impact to a less than significant level**.**

3. Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (**Impact 3.4-3**)

Without mitigation, the Project has the potential to result in contamination of the Arroyo Seco Channel from construction activities associated with the channel crossings (Phase IV-Annandale and V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.4-3**, and, which would reduce this impact to a **less than significant** level.

Mitigation Measure 3.4-3: Complete Jurisdictional Delineation and Necessary Mitigation Where the Annandale and Northwestern Extensions Cross Arroyo Seco Channel. A jurisdictional delineation will be conducted prior to any ground disturbing activities in both the Annandale and Northwestern Extensions where the proposed pipelines cross sections of the Arroyo Seco channel. The Annandale and Northwestern Extensions propose to avoid impacts to jurisdictional waters by jack-and-bore or horizontal directional drilling outside of U.S. Army Corps of Engineers ("USACE")/Los Angeles Regional Water Quality Control Board ("LARWQCB")/CDFW jurisdiction to install the pipeline. Although no impacts to jurisdictional waters are anticipated, there is a slight potential for an accidental release of drilling fluid ("frac-out release") during installation to occur. Thus, as a contingency

measure, the following measure would be implemented to minimize any potential impacts to jurisdictional features:

- A contingency plan to contain potential frac-out release or other emergency will be prepared by the contractor and approved by the project engineer) prior to jack-and-bore or horizontal directional drilling, as well as the provisions in place to avoid/contain pollutants in case of an accident (e.g., should frac-out release occur). This plan will minimize drilling pressures to keep the mud from fracturing out of the soil, include procedures to stop drilling immediately if frac-out occurs, and outline containment and cleanup for any frac-out, including use anionic polymers to remove suspended bentonite from water.

If the pipeline is installed with an open trench and would result in impacts to USACE, LARWQCB, and/or CDFW jurisdictional features, the following permits from regulatory agencies must be obtained for impacts to a jurisdictional feature: Clean Water Act ("CWA") Section 404 Nationwide Permit from USACE, CWA Section 401 Water Quality Certification from LARWQCB, and California Fish and Game Code ("CFGC") Section 1602 Streambed Alteration Agreement from CDFW. Compliance with applicable permits will fully mitigate (at minimum 1:1 ratio) direct and indirect impacts to jurisdictional waters.

b. Facts in Support of Findings

The Phase I Project would cross the Arroyo Seco channel north of Washington Blvd. The Arroyo Seco is a regulated water course under the jurisdiction of USACE, LARWQCB, and CDFW, and requires a detailed jurisdictional delineation to determine the extent of jurisdictional waters within the Phase I Study Area. Two downstream riparian communities are supported by Arroyo Seco flows (Central and Lower Restoration Projects), and would be monitored by PWP under the Central Arroyo and Lower Arroyo Master Plan Monitoring Program to document baseline conditions and monitoring any changes subsequent to Phase I Project implementation in the riparian habitats. The Annandale and Northwestern Extensions do not support federally protected wetlands but do cross the Arroyo Seco, and require a detailed jurisdictional delineation prior to construction of the crossings. These crossings propose to use jack-and-bore or horizontal directional drilling (trenchless crossing) to avoid potential impacts to jurisdictional waters. There is potential for frac-out release to occur wherein drilling fluids surface through fractures in the ground above the tunnel being drilled for the pipe. Should open trench crossing be implemented for these extensions, all appropriate permits would be obtained prior to construction of the crossings, and potential impacts would be temporary with all temporarily disturbed areas restored to pre-project conditions.

Mitigation Measure 3.4-3 requires that prior to any ground disturbing activities, a formal jurisdictional delineation shall be conducted to confirm the presence and extent of features regulated by USACE, RWQCB, and/or CDFW. If trenchless crossings are utilized, a frac-out plan would be developed to mitigation potential impacts to jurisdictional areas. If implementation of the project components results in unavoidable impacts to jurisdictional waters, a CWA Section 404 permit from USACE, a CWA

Section 401 permit from RWQCB, and/or a Streambed Alteration Agreement permit from CDFW shall be obtained and habitat would be replaced either on site or off site. Implementation of Mitigation Measure 3.4-3 would reduce the impact to a less than significant level.

4. Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites (**Impact 3.4-4**)

Without mitigation, the Project has the potential to result in disturbances to nesting songbirds and raptors as a result of construction-related vegetation removal (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.4-4**, which would reduce this impact to a **less than significant** level.

Mitigation Measure 3.4-4: Avoid Migratory Bird Nesting Season or Complete Surveys Before Construction Activities. Mitigation for potential impacts to nesting songbirds and raptors and for the taking of migratory bird species can be accomplished in one of two ways. First, efforts will be made to schedule all vegetation removal activities between September 1 to February 14, outside of the nesting season (since nesting activity typically occurs from February 15 to August 31) to avoid potential impacts to nesting birds. This would ensure that no active nests would be disturbed and that vegetation removal could proceed rapidly. Secondly, if vegetation removal must occur during the nesting season, all suitable habitat will be thoroughly surveyed for the presence of nesting birds by a qualified biologist a minimum of three (3) days but no more than seven (7) days before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) will be delineated, flagged, and avoided until the nesting cycle is complete as determined by the biological monitor to minimize impacts.

b. Facts in Support of Findings

The Project supports potential habitat for species on a local scale but is unlikely to provide function to facilitate wildlife movement on a regional scale, and is not a regionally important dispersal or seasonal migration corridor. The Project does support potential nesting habitat for songbirds and raptors within trees and shrubs. Destroying active nests is a violation of the Migratory Bird Treaty Act ("MBTA") and CFGC Section 5303, and impacts to nesting songbirds and raptors require mitigation.

Mitigation Measure 3.4-4, requires that construction occurring within or adjacent to vegetation suitable for migratory birds shall occur outside the nesting season, if feasible, to avoid potential direct and indirect impacts to nesting birds. If infeasible, a survey of suitable habitats shall be conducted to determine the presence/absence of

nesting birds and buffer zones will be established to protect nesting birds. Implementation of Mitigation Measure 3.4-4 would reduce the impact to a less than significant level.

C. CULTURAL RESOURCES

1. Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American Burials, pursuant to §15064.5 (**Impact 3.5-1**)

Without mitigation, the Project has the potential to result in disturbance of known and unknown cultural resources as a result of excavation activities, including potential to disturb resources in the vicinity of CA-LAN-26, at the Sheldon Non-Potable Water Reservoir site (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.5-1a, 3.5-1b, 3.5-1c, 3.5-1d, 3.5-1e,** and **3.5-1f**, which would reduce the potential to cause a substantial adverse change in the significance of a historical resource to a **less than significant impact**.

Mitigation Measure 3.5-1a: Monitor and Report Construction Excavations for Archeological Resources in Less Elevated Areas. Pasadena Water and Power (PWP) will retain a qualified archaeological monitor to be present during construction excavations such as grading, trenching, grubbing, or any other construction excavation activity associated with the proposed Project. A "qualified" archaeological monitor is one who possesses appropriate and applicable credentials and/or training to identify and/or assess the cultural resources that can reasonably be anticipated as the most likely type of cultural resource to be found, if any are encountered, based on the results of the cultural resources assessment completed for the proposed Project. These credentials include a bachelor's degree in archaeology, anthropology, geology, or closely related field and at least one year of archaeological fieldwork or laboratory experience in California. At least two years of fieldwork experience can substitute for a degree. The monitor who conducts the monitoring at the Sheldon Reservoir Site shall have additional qualifications that include the completion of a Human Osteology (or similar) course, or the completion of training in identifying human remains, or has conducted at least one month of fieldwork or laboratory work involving human remains and/or associated grave goods.

The monitor will observe all excavations in the less elevated areas of the Study Area. These areas include the portions of the Study Area that traverse these Pasadena streets and/or areas: Rose Bowl Drive, N. Arroyo Blvd., Washington Blvd., Parkview Ave., Laurel St., Linda Vista Ave., segments of Afton St., and Brookside Golf Course. These areas also include the grading for the proposed Sheldon Non-Potable Water Reservoir and pressure-reducing station, the Brookside booster pump station, the hydroelectric generation turbine facility, and the tunnel water pump station and wet well

facilities. The more elevated areas of the Study Area (i.e., the areas within the San Rafael Hills to the west and the San Gabriel Mountains to the north) will not be monitored because these areas consist of igneous and metamorphic rocks that are not conducive to retaining archaeological resources. These areas include the portions of the Study Area that traverse these Phase I Project segments: Scholl Canyon Landfill Site Access Roads, Undeveloped Ridge, and Art Center College of Design ("Art Center")/LA County Flood Control District Access Road. The frequency of monitoring will be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the archaeological monitor.

Specifically, due to the potential location of buried cultural resources on the southwest portion of the Sheldon Non-potable Water Reservoir site, the construction contractors will protect the area from disturbance with a 4-foot tall fence around the extent of each potential cultural resource site (Target of Interest ("TOI") 1, Anomaly 1, and Anomaly 2), including a 10-foot buffer all around the edge of each potential site. Construction will be outside of the ten foot buffer. The fence and buffer limits will be shown on the final design plans for the Sheldon Non-potable Water Reservoir in Phase I and the pressure reducing station in Northwestern Extension.

The archaeological monitor will prepare a final report at the conclusion of archaeological monitoring to be reviewed and accepted by PWP. The archaeological monitor will file the report with the PWP, the City of Pasadena, and the South Central Coastal Information Center. The report will include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the California Register of Historical Resources and the National Register of Historic Places.

Mitigation Measure 3.5-1b: Cease Ground-Disturbing Activities and Report if Archaeological Resources are Encountered. If archaeological resources (historic or prehistoric) are encountered during implementation of the proposed Project, ground-disturbing activities will temporarily be redirected from the vicinity of the find. A buffer area of at least 25 feet will be established around the find where construction activities will not be allowed to continue. Work will be allowed to continue outside of the buffer area. PWP will immediately notify the United States Bureau of Reclamation ("USBR") of the find. The USBR will then comply with procedures outlined in 36 CFR 800.13. The USBR will coordinate with PWP as to the immediate treatment of the find until a proper site visit and evaluation is made by the USBR. The USBR may request the assistance of a qualified archaeological consultant to assist in compliance with 36 CFR 800.13.

The USBR will prepare a final report about the find to be filed with the Project Sponsor and the South Central Coastal Information Center. The report will include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the California Register of Historical Resources and the National Register of Historic Places. PWP, in consultation with the USBR and the landowner, will designate repositories in the event that resources are recovered.

Any delays will be minimized to the extent practicable while adequately and appropriately handling any potential archaeological resources.

Mitigation Measure 3.5-1c: Cease Ground-Disturbing Activities and Report if Human Remains are Encountered. If human remains are encountered unexpectedly during implementation of the proposed Project, State Health and Safety Code Section 7050.5 requires that no further disturbance will occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission ("NAHC"). The NAHC will then identify the person(s) thought to be the Most Likely Descendent ("MLD"). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants will complete their inspection and make their recommendation within 48 hours of being granted access by the land owner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner will ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this Mitigation Measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner will discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative will inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

Any delays will be minimized to the extent practicable while adequately and appropriately handling any human remains that may be discovered during the course of the proposed Project.

Mitigation Measure 3.5-1d: Conduct Phase I Archaeological Resources Assessment for Future Extensions. PWP will conduct a Phase I Archaeological Resources Assessment of the Future Extensions to identify any archaeological resources within the area of a proposed Project. The Phase I assessment will include cultural resources records searches through the South Central Coastal Information Center (as needed), a Sacred Lands File search through the Native American Heritage Commission and follow-up Native American consultation, and a pedestrian survey of the Study area (Note: surveys may not be required in areas that do not have the native ground surface

exposed such as paved streets). Upon completion of any report on findings, the USBR and State Historic Preservation Officer ("SHPO") will be consulted to allow for review and concurrence with the study findings. If resources are identified during the Phase I assessment, then a Phase II assessment will be required, as described in Mitigation Measure 3.5-1e. If no resources are identified as part of the assessment, then archaeological monitoring may be implemented as detailed in Mitigation Measures 3.5-1a, 3.5-1b, and 3.5-1c.

Mitigation Measure 3.5-1e: Conduct Phase II Archaeological Resources Assessment for Future Extensions, if Warranted. If resources are identified during the Phase I assessment undertaken in Mitigation Measure 3.5-1d, a Phase II Archaeological Resources Assessment may be warranted if improvements or new public access is proposed in the vicinity of such resource, or if an alternate alignment is not selected. The Phase II assessment will evaluate the resource(s) for listing in the California Register of Historical Resources (per CEQA) and the National Register of Historic Places (per Section 106). If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II assessment may not be necessary. The need for a Phase II assessment will be determined by PWP, USBR, and SHPO. Methodologies for evaluating a resource can include, but are not limited to: subsurface archaeological excavations, additional background research, and coordination with interested individuals in the community.

Mitigation Measure 3.5-1f: Conduct Phase III Archaeological Resources Assessment for Future Extensions, if Warranted, and Develop Mitigation to Reduce Potential Impacts from Future Extensions. If, as a result of the Phase II assessment, resources are determined eligible for listing, potential impacts to the resources will be analyzed and if impacts are significant and cannot be avoided, mitigation measures will be developed and implemented to reduce impacts to the resources. If avoidance is not feasible, then Phase III Archaeological Resources Assessments will be implemented. Phase III assessments can include, but are not limited to: additional subsurface archaeological excavations (i.e., data recovery) and/or archaeological monitoring during ground-disturbing activities. Coordination and concurrence with the USBR and SHPO regarding treatment or mitigation will be required. Mitigation measures could include, but are not limited to, the mitigation described in Mitigation Measures 3.5-1a, 3.5-1b, and 3.5-1c. The performance standard for this mitigation measure is to reduce potential impacts to archaeological resources to a less than significant level, which would require that any archaeological resources encountered during implementation of the proposed Project be handled in a method approved by appropriate archaeological and cultural monitors where avoidance of such resources is infeasible.

b. Facts in Support of Findings

One archaeological resource (CA-LAN-26) was identified within the vicinity of the Study Area, and two archaeological resources (CA-LAN-3346 and CA-LAN-26) were recorded within a half-mile radius of the Study Area. CA-LAN-3346 is a historic trash scatter but is located at a great enough distance (one-quarter mile) from the Southern Extension I to not be impacted by the Project. CA-LAN-26 is located within the vicinity of the proposed Sheldon Non-Potable Water Reservoir and adjacent pressure reducing

station. Construction of these project components would be within the vicinity of Target of Interest (TOI) 1 and Anomalies 1 and 2. Design and siting of these components would be conducted to avoid TOI 1 and Anomalies 1 and 2. Excavation activities for the Phase I Project and Northwestern Extension would require monitoring and mitigation, while all Future Extensions would require project-level archaeological resources assessments.

Mitigation Measure 3.5-1a requires archaeological monitoring during excavation in areas with soils suitable to the presence of such resources. Mitigation Measure 3.5-1b requires ground disturbing activities be halted if archaeological resources are encountered and appropriate steps taken to protect and document these resources. Mitigation measure 3.5-1c requires that ground disturbing activities be halted if human remains are encountered, and the remains avoided until they can be appropriately treated and removed. Mitigation Measures 3.5-1d through 3.5-1f are progressive measures to prepare Phase I, Phase II, and Phase III Archaeological Resources Assessments for the Future Extensions, as necessary (with each subsequent assessment pending the results of the previous one). Mitigation Measure 3.5-1f would require mitigation should these assessment determine the potential presence of archaeological resources in the area of the Future Extensions. The implementation of these mitigation measures would ensure that the potential to cause a substantial adverse change in the significance of archaeological resources is reduced to a less than significant impact

2. Potential to cause a substantial adverse change in the significance of a historical resources as defined in §15064.5 (**Impact 3.5-2**)

Without mitigation, the Project has the potential to result in changes to the character of a historical resource or contributing feature through construction of aboveground facilities within a historical district and installation of pipelines along historical bridges for stream crossings (Phase I, II-Southern I, and IV-Annandale).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.5-2a, 3.5-2b, 3.5-2c,** and **3.5-2d**, which would reduce the potential to cause a substantial adverse change in the significance of a historical resource to a **less than significant** impact.

Mitigation Measure 3.5-2a: Comply with the Secretary of the Interior's *Standards for Rehabilitation* for pressure reducing station and the Brookside booster pump station, the hydroelectric generation turbine, and the tunnel water pump station to be constructed within the National Register-listed Pasadena Arroyo Parks and Recreation District. The design of the new pressure reducing station and the Brookside booster pump station, the hydroelectric generation turbine, the tunnel water pump station and wet well facilities will comply with the Secretary of the Interior's *Standards for Rehabilitation* to help maintain the existing aesthetics associated with historical resources in the surrounding area. The new facilities will be designed with

materials, massing, scale, size, features, and design elements that blend with the surrounding environment in accordance to Standards 9 and 10. The facility will not dominate the viewshed; the structure will appear secondary, lower in height, and screened with shrubs, trees, or other suitable plantings and landscape elements that are compatible with the historic park setting.

If the facility is constructed in accordance with the Secretary of the Interior's *Standards*, the Proposed Undertaking will not detract from the historic character and integrity of Pasadena Arroyo Parks and Recreation District, which would retain its overall historic and architectural significance. To protect the integrity of the National Register-listed Pasadena Parks and Recreation District, a qualified preservation consultant will review the final plans for conformance with Secretary of the Interior's *Standards* and prepare a memorandum commenting on the final proposed Project prior to issuance of a building permit. With required mitigation incorporated as a condition of the proposed Project, the new facilities located within the National Register-listed Pasadena Arroyo Parks and Recreation District would have no adverse impacts to historic properties (per Section 106) or historical resources (per CEQA) situated within the APE/Study Area.

Mitigation Measure 3.5-2b: Comply with the Secretary of the Interior's *Standards for Rehabilitation* for the pipeline crossing of Arroyo Seco Flood Control Channel at Washington Boulevard. The design and construction of the crossing of Arroyo Seco at Washington Boulevard will be undertaken in a manner that would limit damage to the concrete channel lining to the greatest extent feasible. Furthermore, reconstruction of the channel lining afterward will be conducted in accordance with the Secretary of the Interior's *Standards for Rehabilitation*. A qualified preservation consultant will review the final construction plans for conformance with Secretary of the Interior's *Standards* and prepare a memorandum commenting on the final Project prior to Lead Agency approval of project construction and issuance of a building permit. To protect the integrity of the historical resource, the final construction plans will detail how the section of the channel lining would be removed, what trenching method would be utilized, what protection measures would be implemented to avoid damage to the surrounding channel during construction, and how the channel lining would be repaired and replaced following installation of the pipeline. The preservation consultant will monitor the removal of the channel lining, and inspect the channel after substantial construction completion to ensure potential damage to the channel is minimized and the concrete lining repair and replacement meets the Secretary of the Interior's *Standards for Rehabilitation.* With required mitigation incorporated as a condition of the project, the pipeline crossing the National Register-eligible Arroyo Seco Floor Control Channel at Washington Boulevard would have no adverse impacts to historic properties (per Section 106) or historical resources (per CEQA) situated within the APE/Study Area.

Mitigation Measure 3.5-2c: Comply with the Secretary of the Interior's *Standards for Rehabilitation* for pipes installed over the entrance to the Colorado Street Bridge. Adverse effects by Southern Extension I to the Colorado Street Bridge, listed on the National Register, will not be substantial since the pipeline will avoid physical alteration of the resource. The Pipe will be installed over the eastern on-ramp to the Colorado Street Bridge; the pipeline will be located in non-historic material (new

asphalt, concrete, etc.) and the detailed project-level plans will be reviewed by a qualified preservation consultant prior to project approval to ensure that no physical alteration of the historic bridge will occur. Alteration of the historic bridge will be avoided, such as boring into the historic concrete of the bridge or attaching brackets or pipes to the bridge. Since the installation will be completed in accordance with the Secretary of the Interior's Standards, which provides guidance on appropriate materials and methods to protect the cultural integrity of historic resources, the project will not detract from the architectural integrity of Colorado Street Bridge listed in the National Register and the historic resource would retain its overall historic and architectural significance.

Mitigation Measure 3.5-2d: Comply with the Secretary of the Interior's *Standards for Rehabilitation* for the attachment of pipes to the Seco Street Bridge. Adverse effects by the Annandale Extension to the Seco Street Bridge, a character-defining feature of the National Register-eligible Arroyo Seco Flood Control Channel District, will be avoided. The pipeline will be attached along the outside edges of the deck amongst the other attached pipes or underneath the deck. There are other pipes attached to the south deck of the bridge and the new pipeline will be installed amongst the previous interventions, using the existing brackets. Attachment of new brackets to secure a new pipeline to the historic bridge will be avoided. Boring into the historic concrete of the bridge and/or channel will be avoided. If the pipeline is installed amongst the previous pipes, as described, the new pipeline will not be significantly visible from the public right-of-way. While the piping may be visible from the park, there are already other pipes attached to the bridge in this manner. If the installation is completed in accordance with the Secretary of the Interior's Standards, which provides guidance for appropriate materials and methods to protect the cultural integrity of historic resources during construction or restoration activities, the project will not detract from the architectural integrity of the Arroyo Seco Flood Control Channel District and the contributing Seco Street Bridge would retain its overall historic and architectural significance.

b. Facts in Support of Findings

Two historical resources were identified within the vicinity of the Phase I project: Arroyo Seco Flood Control Channel and the Pasadena Arroyo Parks and Recreation District. There is potential that the Phase I crossing of the Arroyo Seco could cause physical damage that could be mitigated with Mitigation Measure 3.5-2b. The Phase I project would also cause indirect visual impacts to the Pasadena Arroyo Parks and Recreation District from construction activities (temporary impacts) and aboveground facilities that introduce new non-contributing features (permanent impacts).

Historical resources identified within the vicinity of the Future Extensions include the Prospect District, Arroyo Parks and Recreation District, Arroyo Seco Flood Control Channel, Seco Street Bridge, Colorado Street Bridge, Mentor Court, Jet Propulsion Laboratory historical buildings, and the Pasadena Landmark Districts of Tournament Fields Ross Grove, South Marengo, and Marengo/Pico Landmark District. Southern Extension I has potential to adversely impact the National Register-listed Colorado Street Bridge as a result of pipeline installation over the eastern on-ramp to the bridge, and alteration of the historic bridge would be avoided. Mitigation would be required to ensure

the pipeline will not impact the bridge's overall historic and architectural significance. The Annandale Extension could alter the Seco Street Bridge, a contributing feature of the Arroyo Seco Flood Control Channel by construction of the pipeline across, attached to, or adjacent to the bridge. An attempt would be made to attach the pipeline to existing pipelines, and avoid boring into historic concrete.

The laying of new pipe within existing roadway ROWs will not cause an adverse impact to historic districts within the Future Extensions because the roadways do not have original materials and the design of the character-defining layout of streets will not be changed by the project.

Mitigation Measures 3.5-2a, 3.5-2b, 3.5-2c, and 3.5-2d would ensure that historical resources are protected during construction near and adjacent to such resources. Therefore, with the implementation of these measures, the impact will be less than significant.

3. Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (**Impact 3.5-3**)

Without mitigation, the Project has the potential to result in encounters with paleontological resources through construction-related excavation in less-elevated portions of the Study Area (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.5-3a, 3.5-3b, 3.5-3c,** and **3.5-3d**, which would reduce the potential to destroy a unique paleontological resource to a **less than significant** impact.

Mitigation Measure 3.5-3a: Monitor and Report Construction Excavations for Paleontological Resources in Less Elevated Areas. A qualified paleontologist will be retained to monitor excavation activities into the fossiliferous older Quaternary Alluvium deposits. The minimum qualifications of the paleontological monitor shall be a bachelor's degree in geology, paleontology, or closely related field and at least one year of paleontological fieldwork or laboratory experience in California. A minimum of two years of experience can substitute for a degree. The less elevated areas of the Study Area contain surficial deposits of older Quaternary alluvial fan deposits and therefore excavations into these deposits will be monitored. These areas include the portions of the Study Area that traverse through these Pasadena streets and areas: Rose Bowl Drive, N. Arroyo Blvd., Washington Blvd., Parkview Ave., Laurel St., Linda Vista Ave., segments of Afton St, and Brookside Golf Course. These areas also include the grading for the proposed Sheldon Non-Potable Water Reservoir and the proposed pressure-reducing station, the Brookside booster pump station, the hydroelectric generation turbine, and the tunnel water pump station and wet well facilities. Monitoring will consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate,

collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring will be based on the rate of excavation and grading activities, proximity to known paleontological resources or fossiliferous geologic formations (i.e., older Quaternary Alluvium), the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the paleontological monitor.

If a potential fossil is found, the paleontological monitor will be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. At the paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor will assist in removing rock samples for initial processing.

Any fossils encountered and recovered will be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected will be donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the San Bernardino County Museum. Accompanying notes, maps, and photographs will also be filed at the repository.

Upon completion of the above activities, the paleontologist will prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report will be submitted to Pasadena Water and Power, the Natural History Museum of Los Angeles County, the San Bernardino County Museum, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

Mitigation Measure 3.5-3b: Conduct Phase I Paleontological Assessment for Future Extensions. PWP will conduct a Phase I Paleontological Resources Assessment of the Future Extensions to identify any paleontological resources within the area of a proposed Project component. The Phase I assessment will include paleontological resources records searches through the Natural History Museum of Los Angeles County (as needed), geologic map and geotechnical report review, and a pedestrian survey of the Study Area *(Note: surveys may not be required in areas that do not have the native ground surface exposed such as paved streets or in areas where metamorphic or igneous sediments/rock units are mapped).* If resources are identified during the Phase I assessment, then a Phase II assessment will be required, as described in Mitigation Measure 3.5-3c. If no resources are identified as part of the assessment, then paleontological construction monitoring may be warranted as described in Mitigation Measure 3.5-3a.

Mitigation Measure 3.5-3c: **Conduct Phase II Paleontological Resources Assessment for Future Extensions, if Warranted.** If resources are identified during the Phase I assessment, a Phase II Paleontological Resources Assessment may be warranted if improvements or new public access is proposed in the vicinity of such resource, or if

an alternate alignment is not selected. The Phase II assessment will evaluate the significance of the resource. If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II assessment may not be necessary. The need for a Phase II assessment will be determined by PWP and USBR (as necessary for federal approvals). Methodologies for evaluating a resource can include, but are not limited to: subsurface paleontological excavations, additional background research, and coordination with interested individuals in the community.

Mitigation Measure 3.5-3d: Develop Mitigation to Reduce Potential Impacts from Future Extensions. If, as a result of the Phase II assessment, resources are determined significant, potential impacts to the resources will be analyzed and if impacts are significant and cannot be avoided, mitigation measures will be developed and implemented to reduce impacts to the resources. If avoidance is not feasible, then Phase III Paleontological Resources Assessments will be implemented. Phase III assessments can include, but are not limited to: additional subsurface paleontological excavations (i.e., data recovery) and/or paleontological monitoring during ground-disturbing activities. Coordination and concurrence with PWP and USBR (as necessary for federal approvals) regarding treatment or mitigation will be required. The performance standard for this mitigation measure is to reduce potential impacts to paleontological resources to a less than significant level, which would be achieved through handling of potential paleontological resources in a manner deemed appropriate by a qualified paleontological monitor, and as described in Mitigation Measure 3.5-3a.

b. Facts in Support of Findings

Portions of the Project within elevated areas within the San Gabriel Mountains to the north and San Rafael Hills to the west are in areas whose bedrock is not conducive to retaining paleontological resources (including a portion of the Northwestern Extension and Scholl Canyon Landfill Site Access Roads, Undeveloped Ridge, and portions of the Art Center/LA County Flood Control District Access Road areas of the Phase I Project). Fossils have been identified approximately 3.5 miles southwest of the Study Area, 14 feet below ground surface in deposits at the surface and at depth within the less elevated portions of the Study Area. No paleontological resources were detected during pedestrian surveys but excavation for the Project in areas where bedrock is more conducive to retaining paleontological resources could encounter paleontological resources.

Mitigation Measures 3.5-3a, 3.5-3b, 3.5-3c, and 3.5-3d would ensure that any unique paleontological resources discovered during construction are addressed and mitigated to avoid accidental damage, in compliance with CEQA requirements. Therefore, with the implementation of these measures, the impact will be less than significant.

D. GEOLOGY AND SOILS

1. Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of known earthquake

fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (**Impact 3.6-1**).

Without mitigation, the Project has the potential to result in exposure of project facilities to seismic groundshaking and liquefaction of soils (Phase II-Southern I, III-Southern II, and V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.6-1**, which would reduce the potential to expose people or structures to substantial adverse effects involving rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides to a **less than significant** level.

Mitigation Measure 3.6-1: Prepare Geological Report for Potentially Affected Facilities. During the design phase for the Non-Potable Water Project Future Extensions, PWP will require preparation of a Geologic Report by a geologist registered in the State of California for facilities proposed for the proposed Project that have not been previously analyzed and could potentially be located within known seismic hazard zones shown on Figure 3.6-1.

The Geologic Report will include an engineering analysis of liquefaction and slope stability for the distribution pipelines, pump stations, storage facilities, and pressure reducing station within the PWP service area. This assessment will include a liquefaction assessment study in accordance with the California Geological Survey Special Publication 117 Guidelines, and the Southern California Earthquake Center's procedures to implement Special Publication 117. If this report finds unstable soils would present potential risks associated with liquefaction or landslides, engineering recommendations for surface and subsurface drainage specifications and detailed design for fill placement and excavation will be provided and incorporated into design of the proposed Project.

a. Facts in Support of Findings

The Project is located within a seismically active area, with faults in the Project vicinity, including the Raymond Scholl Canyon Fault, Sycamore Canyon fault, Verdugo Fault, and Eagle Rock Fault. Potential for fault rupture along the Phase I alignment was found to be minimal, but the alignment could experience strong ground motions. The alluvial floor of the Arroyo Seco is listed as susceptible to liquefaction. Portions of the Phase I alignment would be located within this potential liquefaction area, but design would be compliant with applicable seismic guidelines and recommendations of the *Preliminary Geological Feasibility Study*. Portions of the steep natural terrain within the proximity of the Phase I project may be susceptible to landslide but showed no definitive evidence of seismically induced landsliding at the proposed Scholl Canyon non-potable water reservoir site and along alignments in this area. No Future Extension facilities are located within a fault zone, nor are they subject to potential fault rupture. Future

Extension facilities could experience strong ground motions. Portions of the Annandale Extension, Southern Extension I, Southern Extension II, and Northwestern Extension are located within potential liquefaction zones. Portions of land within proximity to Future Extensions' facilities are located within known or potential seismic hazard areas. Design of the Project would conform to applicable seismic hazard-related standards.

Mitigation Measure 3.6-1 would utilize appropriate engineering recommendations to reduce potential impacts of ground shaking events that result in ground failure, liquefaction or landslides by requiring soils testing/surveys, implementation of protective measures, and slope stabilization in applicable areas, therefore, reducing the impact to a less than significant level.

2. Portions of the Project are located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (**Impact 3.6-3**).

Without mitigation, the Project has the potential to result in location of project facilities within areas of potential liquefaction in the vicinity of the Arroyo Seco Channel and/or areas with collapsible or instable soils (Phase II-Southern I, III-Southern II, and V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.6-1**, which would reduce the potential for locating the project on a geologic unit that is unstable or could become unstable to a **less than significant** impact.

Mitigation Measure 3.6-1 ***See Immediately Above.***

b. Facts in Support of Findings:

Portions of the Study Area are located in an alluvial plain, areas of which have potential for liquefaction, collapse, and expansion. Portions of the Project are located in or near potential liquefaction areas; cross or are near the Arroyo Seco drainage channel, which may have collapsible soils; and/or are in proximity to unstable soils. Final project design would conform with applicable seismic hazard standards and criteria.

Mitigation Measure 3.6-1 would reduce the potential for location on unstable soils or soils that could become unstable by requiring implementation of engineering recommendations identified in the Geologic Reports, reducing the impact to a less than significant level.

E. HAZARDS AND HAZARDOUS MATERIALS

1. The project has potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (**Impact 3.8-2**).

Without mitigation, the Project has the potential to result in reasonably foreseeable upset and accident conditions involving the release of construction-related hazardous materials (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.8-2a**, **3.8-2b**, and **3.8-2c**, which will reduce the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions resulting in release of hazardous materials to a less than significant impact.

Mitigation Measure 3.8-2a: Hazardous Materials Management and Spill Prevention and Control Plan. Before construction begins, PWP will require its construction contractor to prepare a Hazardous Materials Management Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan will be applicable to construction activities, and will establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration ("OSHA") regulations. Elements of the Plan will include, but not be limited to the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;
- Notification and documentation of procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

Mitigation Measure 3.8-2b: Contingency Plan for Contaminated Soil and/or Groundwater. While there are no known areas of contaminated soil within the proposed Project boundaries, if contaminated soil and/or groundwater are encountered, work will be halted in the area and the type and extent of the contamination will be evaluated. A contingency plan to dispose of contaminated soil or groundwater would be developed through consultation with appropriate regulatory agencies. If dewatering or hydrostatic testing of a pipeline is to occur during project construction, the water would be discharged to the local drainage system, which would require prior approval from the LARWQCB.

Mitigation Measure 3.8-2c: Conduct Environmental Site Assessment in vicinity of Northwestern Extension and Southern Extension I. Before beginning construction, PWP will complete a Phase I Environmental Site Assessment ("ESA") for

soil and groundwater contamination in areas where proposed non-potable water pipelines are located in the vicinity of Northwestern Extension and Southern Extension I. The recommendations set forth in the Phase I ESA will be implemented to the satisfaction of applicable agencies before construction begins. If the Phase I ESA indicates the potential for contamination within the construction zone of the pipelines, Phase II studies will be completed and recommendations implemented before construction begins. Phase II studies will include soil and groundwater sampling and analysis for anticipated contaminants. The Phase II sampling is intended to identify how to dispose of potentially harmful material from excavations, and to determine if construction workers need specialized personal protective equipment while constructing the pipeline through the area. The recommendations of the Phase II analysis will be implemented prior to or during construction to ensure health hazards are reduced to levels deemed acceptable by the applicable regulators.

b. Facts in Support of Findings

Construction of the Project could create a hazard to through reasonably foreseeable upset and accident conditions involving the release of hazardous materials used in construction, which include diesel fuel and minor amounts of paints, fuels, solvents, and glues. A containment berm would be installed at the chlorine boosting facility at the Sheldon Non-Potable Water Reservoir site and be designed to hold 150 percent of the maximum stored volume of hazardous materials. A hazardous materials business plan would be required, along with compliance with applicable state and federal zoning, fire regulations, OSHA 29 CFR Part 1910 Standards, and the Safety Data Sheets issued by the manufacturers of the chlorine and sodium hypochlorite solutions. Hazardous materials sites are located within the vicinity of portions of the Project, which could expose construction workers and residents to potentially contaminated soils or groundwater if there were to be improper removal of existing hazardous materials on-site and/or leakage from existing sites in the area.

Mitigation Measures 3.8-2a, 3.8-2b, and 3.8-2c would require a Hazardous Materials Management and Spill Prevention and Control Plan be developed and implemented before construction begins, a Contaminated Soil Contingency Plan to be developed if contaminated soils are encountered during construction, and additional analysis be conducted for at-risk areas for potential contaminated soils and groundwater, along with additional mitigation if determined to be necessary as a result of this analysis. The implementation of these mitigation measures will ensure that impacts are reduced to less than significant levels.

2. <u>The Project has potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (**Impact 3.8-3**)</u>.

Without mitigation, the Project has the potential to result in release of hazardous materials within one-quarter mile of schools through reasonably foreseeable upset and accident conditions (All Phases), and exposure to potentially contaminated soils or groundwater if there were to be improper removal of existing hazardous materials on site and/or leakage from existing septic disposal systems (Phase II-Southern I and V-Northwestern Extension).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measures 3.8-2a, 3.8-2b, and 3.8-2c, which will reduce the potential to emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of any existing or proposed school to a less than significant impact.

Mitigation Measure 3.8-2a *See Above.*

Mitigation Measure 3.8-2b *See Above.*

Mitigation Measure 3.8-2c *See Above.*

b. Facts in Support of Findings

A number of schools are located within one-quarter mile of the Project. Project construction and operation would comply with applicable standards that regulate the transport, use, storage, or disposal of hazardous materials, as well as public health requirements that regulate tertiary-treated recycled water. It is possible that construction or operation could emit or handle hazardous materials within one-quarter mile of schools through reasonably foreseeable upset and accident conditions involving the release of hazardous materials, including diesel fuel, paints, solvents, and glues. Construction of the Northwestern Extension and Southern Extension I could emit or handle hazardous materials within on-quarter mile schools through exposure to potentially contaminated soils or groundwater if there were to be improper removal of existing hazardous materials on site and/or leakage from existing septic disposal systems in the area.

Mitigation Measure 3.8-2a would ensure that Hazardous Materials Management Spill Prevention and Control Plan and Contingency Plans are developed to reduce the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Mitigation Measures 3.8-2b would require that a Contaminated Soil Contingency Plan be developed if contaminated soils are encountered during construction. Mitigation Measure 3.8-2c would require additional analysis and mitigation of potential contaminated soils and groundwater in the Northwestern Extension, which is at higher risk of encountering such soils and groundwater due to the presence of a Cortese List site within that extension. The implementation of these mitigation measures will ensure that impacts within one-quarter mile of a school are reduced both during construction and during facility operations to less than significant levels.

3. Portions of the Project are located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (**Impact 3.8-4**).

Without mitigation, the Project has the potential to result in encounters with contaminated soil and/or groundwater near the Jet Propulsion Lab during construction (Phase V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measures 3.8-2b and 3.8-2c, which will reduce the potential risks associated with location of the proposed Project on a site included on a hazardous materials site list to a less than significant impact.

Mitigation Measure 3.8-2b ***See Above.***

Mitigation Measure 3.8-2c ***See Above.***

b. Facts in Support of Findings

The Northwestern Extension is partially located on the Jet Propulsion Laboratory ("JPL") site, which is included on the Cortese List. PWP, in conjunction with NASA, is implementing a cleanup effort to remove VOCs and perchlorate from areas adjacent to JPL, but it is possible contaminated soil and/or groundwater could be encountered during excavation, thereby posing a health threat to construction workers, the public, and the environment.

Mitigation Measures 3.8-2b and 3.8-2c would require that a Contaminated Soil Contingency Plan be developed if contaminated soils are encountered during construction, and requires additional soil and groundwater testing to identify potential contamination and corresponding construction techniques to reduce associated risks. The implementation of these mitigation measures will ensure that impacts are reduced to less than significant levels.

4. <u>The Project has potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (**Impact 3.8-5**)</u>.

Without mitigation, the Project has the potential to require temporary lane and/or street closures, which would temporarily block access to some roadways and driveways currently used by emergency vehicles and could interfere with implementation of adopted emergency response or evacuation plans (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measure 3.8-5, which will reduce the potential to impair or interfere with an emergency response or evacuation plan to a less than significant impact.

Mitigation Measure 3.8-5: Develop and Maintain Emergency Access Strategies. In conjunction with Mitigation Measure 3.16-1 (refer to *Section 3.16 Traffic and Transportation*), comprehensive strategies for maintaining emergency access will be developed. Strategies will include, but are not limited to, maintaining steel trench plates at the construction sites to restore access across open trenches and identification of alternate routing around construction zones. Also, police, fire, and other emergency

service providers will be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures.

b. Facts in Support of Findings

Construction of the Project would require temporary lane and/or street closures, and would temporarily block access to some roadways and driveways currently used by emergency vehicles. Temporary lane closures and detours could interfere with implementation of adopted emergency response or evacuation plans. Essential Facilities that could potentially be impacted during Project construction include Fire Station 38 (Phase I Project); Fire Station 31, Pasadena Police Department, and Huntington Hospital (Southern Extension I); Fire Station 34 (Southern Extension II); and Devil's Gate Reservoir (Northwestern Extension). Other facilities that could potentially be required to remain open in the event of an emergency are not located within proximity of the Project facilities.

Mitigation Measure 3.8-5 would require the development of strategies for emergency response within the construction area in coordination with local emergency services prior to construction, reducing the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan to a less than significant impact.

5. The Project has potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (**Impact 3.8-6**).

Without mitigation, the Project has the potential to result in hazardous fire conditions through use of spark-producing construction machinery within or adjacent to areas of Moderate, High, or Very High Fire Hazard in portions of the Study Area (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measure 3.8-6, which will reduce the potential to expose people or structures to risk of wildfires to a less than significant impact.

Mitigation Measure 3.8-6: Prevention of Fire Hazards. During construction of the proposed Project in Fire Hazard Severity Zones, PWP will require staging areas, welding areas, or areas slated for construction to be cleared of dried vegetation or other material that could ignite. Construction equipment that includes a spark arrestor will be equipped in good working order. In addition, construction crews will have a spotter during welding activities to look out for potentially dangerous situations, such as accidental sparks. Other construction equipment, including those with hot vehicle catalytic converters, will be kept in good working order and used only within cleared construction zones. PWP will require the creation and maintenance of approved fire access to work areas, in accordance with local Fire regulations. During construction of

the proposed Project, contractors will require vehicles and crews working at the project site to have access to functional fire extinguishers.

b. Facts in Support of Findings

The Project facilities would be primarily located within paved and unpaved roadway ROWs and immediately adjacent vacant or open space lands. Portions of the Project run through and adjacent to terrain that contains Moderate, High, and Very High Fire Hazard Severity Zones, although the majority of lands within PWP's service area are located within incorporated city lands not included within a Fire Hazard Severity Zone or in areas of low fire hazard. The use of spark-producing construction machinery within or adjacent to areas of Moderate, High, or Very High Fire Hazard could potentially create hazardous fire conditions and expose people or structures to wildfire risks during construction activities.

Mitigation Measure 3.8-6 would require the implementation of fire safety procedures including that construction equipment staging areas be cleared of all dried vegetation or other materials that could ignite, that fire safety measures are followed such as use of spotters during welding and appropriate maintenance and use of potential ignition sources, and that fire extinguishing equipment is available if necessary, reducing the impact to a less than significant level.

F. HYDROLOGY AND WATER QUALITY

1. Violate any water quality standards or waste discharge requirements (**Impact 3.9-1**)

Without mitigation, the Project has the potential to result in violation of water quality standards by exposing and disturbing soils during construction, potentially resulting in increased erosion and siltation in and downstream of the Study Area, or through accidental spills or improper storage of hazardous construction-related materials (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.8-2a**, which would reduce this impact to a less than significant level.

Mitigation Measure 3.8-2a *See above.*

b. Facts in Support of Findings

Excavation, grading, and construction activities associated with proposed Project-related construction could violate water quality standards by exposing and disturbing soils, potentially resulting in increased erosion and siltation in and downstream of the Study Area. In addition, hazardous materials associated with construction equipment could adversely affect surface and groundwater quality if spilled or stored improperly. During construction, a Storm Water Pollution Prevention Plan ("SWPPP") would be developed and implemented to specify Best Management Practices ("BMPs") to prevent construction pollutants from contacting storm water and to keep products of erosion from

moving off site into receiving waters. During operation, non-potable water would be applied in compliance with the SWRCB *General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water* ("Recycled Water General Permit") (Order No. 2009-0006-DWQ) and *General Waste Discharge Requirements for Recycled Water Use* (Order No. WQ 2014-0090-DWQ), both of which include measures to protect surface and groundwater quality. Compliance with the SWRCB's Recycled Water General Permit would ensure occasional runoff of non-potable water does not negatively impact water quality and associated beneficial uses.

Mitigation Measure 3.8-2a requires preparation of a Hazardous Materials Management and Spill Prevention and Control Plan to manage construction-related chemicals and solvents. Compliance with the Construction General Permit, Mitigation Measure 3.8-2a, and other applicable permits would reduce the potential for sediment and other contaminants to enter surface and ground water to a less than significant impact, and would protect against violation of applicable water quality standards from activities associated with construction and operation of the Project.

G. NOISE

1. The Project has potential to cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, in excess of standards established in local general plan or noise ordinances or applicable standards of other agencies (**Impact 3.12-1**).

Without mitigation, the Project has the potential to result in generation of temporary and intermittent noise at and within the immediate vicinity of the Project components, including adjacent to sensitive receptors (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.12-1a** and **3.12-1b**, which would reduce this impact to a less than significant level.

Mitigation Measure 3.12-1a: Noise Control Measures to Reduce Construction Noise. In order to comply with the affected jurisdiction's Municipal Codes, the following measures will be implemented:

- Limit Construction Hours: Construction hours would be limited to times authorized under the cities' and the County's Municipal Code. For the City of Pasadena, construction is allowed 7:00 a.m. to 7:00 p.m. Monday – Friday; 8:00 a.m. to 5:00 p.m. on Saturday, and prohibited on Sundays and holidays. For the City of Glendale, construction within residential areas or 500 feet of residential areas is allowed only from 7:00 a.m. to 7:00 p.m. Monday – Saturday and prohibited on Sundays and holidays. For the City of La Cañada Flintridge, construction is allowed from 7 a.m. to 6 p.m. Monday – Friday during standard time and 7 a.m. to 7 p.m. during daylight savings time (except holidays), and Saturday from 9 a.m. to 5 p.m., and prohibited on Sundays and holidays. For Los

Angeles County, construction is allowed from 7 a.m. to 7 p.m. from Monday – Saturday and prohibited on Sundays and holidays.

- Locate Staging Areas away from Sensitive Receptors: The contractor will select construction staging areas as far as feasibly possible from sensitive receptors. Prior to construction, the construction contractor will identify and receive approval of the construction staging areas from the City of Pasadena Public Works Department. Where applicable, the construction contractor will also identify and receive approval of the construction staging areas from other jurisdictions in the Study Area: City of Glendale, City of La Cañada Flintridge, and County of Los Angeles (Altadena).
- Install and Maintain Mufflers on Construction Equipment in Excess of 85 dBA: Within the City of Pasadena, construction equipment that generates noise in excess of 85 dBA at 100 feet will be fitted with mufflers to reduce noise to less than 85 dBA when measured 100 feet from the equipment. PWP will require the contractor to maintain construction equipment with specified noise-muffling devices to achieve stated performance measures. Noise testing is required to demonstrate the equipment has been installed and is properly reducing noise levels.
- Idling Prohibition and Enforcement: PWP will prohibit unnecessary idling of internal combustion engines. In practice, this would mean turning off equipment if it will not be used for five or more minutes.
- Equipment Location and Shielding: PWP will require its contractors to locate stationary noise-generating construction equipment such as air compressors and generators as far as possible from homes and businesses within the City of Pasadena. At the pressure reducing station at the Sheldon Non-potable Reservoir site, the contractor will install a temporary sound barrier along the north and east fence property lines during construction to mitigate elevated noise levels. The final selection of noise barriers will be reviewed and approved by PWP and the Planning Department.
- Install Measures to Reduce Vibration: The contractor will conduct vibration monitoring at any residences or buildings located less than 50-feet from construction activities. Ground vibration level at the nearest residential structure to the construction site will be monitored using vibration sensor(s) or velocity transducer with adequate sensitivity capable of measuring peak particle velocity level in the frequency range of 1 Hz to 100 Hz. If the vibration level due to construction activities exceeds the project's criteria of 0.2 inch/second, the contractor will make modifications/revisions to construction methods for approval by the City of Pasadena or other applicable jurisdiction. Measures may include features such as use of roller compactor in lieu of vibratory compactors to ensure that the PPV remains at less than the 0.2 inch/second threshold.

Mitigation Measure 3.12-1b: Pre-Construction Notification. Prior to construction, written notifications to residents within 500 feet of the proposed Project will be sent, identifying the type, duration, and frequency of construction activities. Notifications will also identify a mechanism for residents to complain to PWP for construction related noise.

b. Facts in Support of Findings

Short term construction activities include excavation, concrete/asphalt removal, stockpiling, roadway trenching, structural work, and truck hauling. Construction would generate temporary and intermittent noise at and within the immediate vicinity of the Project components, and noise levels would fluctuate during construction. Some noise could be perceived as a nuisance, while construction-related haul trips would raise ambient noise levels. Sensitive receptors within 50 feet of construction activities, could experience noise levels of 76-89 dBA, while those within 100 feet could experience noise levels of 65-84 dBA. Receptors closer than 50 feet to construction activities, such as residential properties adjacent to the Sheldon Non-Potable Water Reservoir and pressure reducing station site, could experience higher noise levels. Noise control mitigation measures would reduce noise to levels within established standards.

Mitigation Measure 3.12-1a requires the incorporation of noise and vibration control measures, Mitigation Measure 3.12-1b requires written notification to residents within 500 feet of the proposed facilities under construction to identify the type, duration, and frequency of construction activities. It also provides a mechanism for residents to register noise complaints. Implementation of these measures will reduce the potential to expose persons to noise levels in excess of standards established in the local general plan or noise ordinances to less than significant.

2. The Project has potential to cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, in excess of standards established in local general plan or noise ordinances or applicable standards of other agencies (**Impact 3.12-2**).

Without mitigation, the Project has the potential to result in generation of noise from operation of pumping units, pressure reducing stations, the upgraded Behner Water Treatment Plant (WTP"), and a hydroelectric turbine facility, as well as potentially intermittent operation of portable emergency generators, vehicle trips, and equipment used for routine maintenance (Phase I and V-Northwestern).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measure 3.12-2, which would reduce this impact to a less than significant level.

Mitigation Measure 3.12-2: Implement Noise Minimization Measures during Operation. Design and construction of the proposed pumps and pressure reducing stations located within the City will comply to ensure operational noise levels at the property line do not exceed the City of Pasadena's Noise Ordinance standards. PWP will implement the following noise minimization measures to the extent they are needed to

reduce noise to a level that complies with the City of Pasadena's Noise Ordinance standards.

- Shielding and other specified measures as deemed appropriate and effective by the design engineer would be incorporated into the design to comply with performance standards minimize noise.
- Project equipment will be outfitted and maintained with noise-reduction devices such as equipment closures, fan silencers, mufflers, acoustical louvers, noise barriers, and acoustical panels to minimize operational noise.
- The orientation of acoustical exits, where necessary, will always be facing away from nearby sensitive receptors.
- Dense landscaping will be incorporated, where appropriate, to absorb and/or redirect noise away from nearby sensitive receptors.
- Noise testing will be conducted to demonstrate noise minimization measures have been properly installed, and that the noise levels have been reduced to levels specified are in compliance within the City of Pasadena Noise Ordinance. If the testing indicates noncompliance with the Noise Ordinance, additional measures (e.g., installation of sound proofing material inside the wall; installation of sound dampening material around the valves, etc.) will be taken until compliance with the 5 dB limitation in the Noise Ordinance can be demonstrated.

b. Facts in Support of Findings

Operation of the Project could produce noise from operation of pumping units, pressure reducing stations, the upgraded Behner WTP, and a hydroelectric turbine facility, as well as potentially intermittent operation of portable emergency generators, vehicle trips, and equipment used for routine maintenance. The Project will not increase noise more than 5 dBA above ambient levels because facilities would be installed on sites with existing similar noise-generating features or operational noise would fall within the range of existing ambient noise levels based on noise contours established by the City of Pasadena. Although operation of the Project is not anticipated to increase ambient noise levels by more than 5 dBA, mitigation has been included because predicting noise during design of facilities is difficult.

Mitigation Measure 3.12-2 requires that design of the Annandale pump station, Brookside booster pump station, hydroelectric turbine facility, pressure reducing station, and Behner WTP include noise reduction features to maintain compliance with the City of Pasadena's Noise Ordinance. Implementation of this measure will reduce the potential to expose persons to permanent sources of excessive noise levels to a less than significant impact.

3. <u>The Project has potential to expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels (**Impact 3.12-3**)</u>.

Without mitigation, the Project has the potential to result in annoyance-level ground-borne vibrations from Project construction activities, including sheet pile installation and traffic; and vibrations in excess of 0.2 inch/second within the vicinity of fragile and historic structures (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. Although this impact is considered less than significant without mitigation, PWP is committed to implementation of **Mitigation Measures 3.12-1a** and **3.12-1b** to further reduce potential ground-borne vibration and noise effects.

Mitigation Measure 3.12-1a ***See above.***

Mitigation Measure 3.12-1b ***See above.***

b. Facts in Support of Findings

The primary sources of ground-borne vibration from construction of the Project include sheet pile installation and traffic. Vibration from construction activities is typically imperceptible at distances greater than 50 feet. At distances less than 50 feet, vibrations could exceed 0.04 inch/second peak particle velocity ("PPV") and be considered an annoyance. Project construction would create vibration close to existing structures and could cause structural damage to fragile and historic structures if vibrations exceed 0.2 inch/second PPV. Construction of Future Extensions is anticipated to produce vibrations in excess of 0.2 inch/second without mitigation.

Mitigation Measure 3.12-1a requires the incorporation of noise and vibration control measures, Mitigation Measure 3.12-1b requires written notification to residents within 500 feet of the proposed facilities under construction to identify the type, duration, and frequency of construction activities. Noise reduction measures generally also reduce ground-borne vibrations. Implementation of these measures will ensure the potential to expose persons to excessive ground-borne vibration or noises in the project vicinity remains a less than significant impact.

H. RECREATION

1. The Project has potential to conflict with established recreational uses of the area (**Impact 3.15-1**).

Without mitigation, the Project has the potential to result in temporary disruption of recreational activities during construction of the tunnel water and other aboveground facilities, due to temporary lane closures and construction barriers (Phase I and V-Northwestern) .

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measures 3.15-1, which would reduce this impact to a less than significant level.

Mitigation Measure 3.15-1: Coordination with Recreational Facilities. PWP will coordinate with the affected recreational facilities owners/operators prior to construction of the proposed facilities to determine the timing and details of construction. To the extent possible, PWP will minimize the duration of recreational facility

disruptions/closures and provide detours where it is safe to do so. PWP will install signage informing the public of construction activities and estimated duration of work activities. PWP will restore all affected recreational facilities to pre-construction conditions to reestablish pre-construction uses and ensure no long-term impacts to recreational facilities would occur.

b. Facts in Support of Findings

Some Project facilities would be located within and around Brookside Park, Rose Bowl Stadium, Brookside Golf Course, and Scholl Canyon Golf Course and Athletic Fields, as well as other recreational facilities. The Project's pipelines would be buried and once constructed will not impact recreational facilities. Aboveground facilities at the Brookside Golf Course will not impact recreational activities at the golf course during operation because they would be sited away from fairways and greens. Construction of the tunnel facilities would result in temporary disruption of public golfing activities. Temporary lane closures could affect access to recreational facilities during construction. A short trail detour would be created around the construction zone for the Brookside pump station, pressure reducing station, and hydroelectric turbine facility to allow for uninterrupted use of the Arroyo Seco Trail during construction. Temporary detours would be created for the La Cañada Flintridge City-Core Circular Trail, Arroyo Seco Trail, Gabrielino Trail, and Altadena Crest Trail as needed during construction that may otherwise disrupt access to these trails. Construction of Future Extensions is not anticipated to impede access to nearby parks and golf courses.

Mitigation Measure 3.15-1 requires coordination with recreational facility operators to minimize disruptions and maintain continued access and use as feasible, and requires that pre-construction conditions and uses be restored upon completion of construction. Implementation of these measures will minimize impacts to recreation facilities to a less than significant level.

I. TRANSPORTATION AND TRAFFIC

1. The Project has potential to generate a substantial increase in traffic which is substantial in relation to the existing traffic and load capacity of the street system, substantially impact existing transportation systems, or alter present patterns of circulation or movement of people and good (**Impact 3.16-1**).

Without mitigation, the Project has the potential to result in traffic impacts from increased construction-related traffic, temporary detours, and temporary street and lane closures (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.16-1**, which would reduce this impact to a less than significant level.

Mitigation Measure 3.16-1: Prepare and Implement a Construction Staging and Traffic Management Plan in Coordination with Responsible Agencies. Prior to construction, PWP's contractor will submit a Construction Staging and Traffic Management Plan ("CSTMP") to the City of Pasadena's Department of Public Works for review and approval. The contractor will also work with the neighboring jurisdictions within the Study Area that are responsible agencies (City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena) to ensure that the jurisdictions concur with the CSTMP.

The CSTMP will show the impact of various construction stages on the public right-of-way, including work in public right-of-way such as lane closures, detours, staging areas, entry and exit points for staging areas, routes of construction vehicles entering and exiting the construction site(s), as well as parking for construction vehicles, equipment, and workers. The plan will also describe traffic control measures that would be implemented to manage traffic and reduce potential traffic impacts in accordance with stipulations of the Manual of Uniform Traffic Control Devices ("MUTCD"). Traffic control measures may include, but are not limited to: flag persons, warning signs, lights, barricades and cones to provide safe passage of vehicular (including public transportation vehicles such as buses), bicycle (children and adults), and pedestrian traffic (both adults and children), and access by emergency responders. In addition, the plan will demonstrate the location of bus stops and bus and bicycle routes that would be temporarily impacted by construction activities and will recommend places to temporarily relocate bus stops and bus and bicycle routes. The Plan will also identify anticipated timing and duration of lane and/or street closures, the number of lanes to be closed along each street, proposed detours and the anticipated number of vehicles that will use each detour. It will also include a plan to manage traffic during Rose Bowl events.

The CSTMP will include project contact information to be circulated with appropriate neighborhood notices of construction and provided to appropriate neighborhood associations. The project contact(s) will be available for calls during construction hours, and an emergency contact available at all times during the proposed Project. Project contact(s) will be the point of contact for stakeholders over any non-emergency situation that may arise related to construction of the proposed Project to ensure enforcement of the CSTMP. Construction traffic will be limited to streets and roadways designated in the CSTMP, and notifications will be provided to neighbors and neighborhood associations for potential upcoming lane and road closures prior to such closures. To the extent practicable, safe, quiet, and "clean" trucks and equipment will be used during project construction, and dust and clean-up measures will be implemented including, but not limited to, power street sweeping and hand brooming along vehicular access drives to the work site(s) and adjacent parking areas. Other site cleaning activities will be required as necessary, and trucks transporting earthwork, debris, or other dust-generating materials will cover their loads with tarps.

A Utility Excavation permit will be obtained from the City of Pasadena's Department of Public Works for use of other public right-of-ways. Lane closures will be done in accordance with the latest edition of the MUTCD. If the public right-of-way occupation requires a diagram that is not included based on the MUTCD, a separate traffic control plan must be submitted as part of the CSTMP to the City of Pasadena's

Department of Public Works for approval and will also be submitted to the City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena) to ensure that all jurisdictions concur with the plan.

b. Facts in Support of Findings

Construction-related traffic would be temporary, and includes a maximum of 20 roundtrip worker trips and 10 roundtrip truck trips carrying equipment and material to and from work sites per day. Worker trips would be primarily at the beginning and end of each day, while truck trips would be scattered throughout the day. Lane closures during construction could impact traffic, though most streets are anticipated to stay open. Lane and street closures, coupled with increased traffic from construction activities could reduce the level of service ("LOS") at some intersections currently operating at LOS D and E during morning and evening peak hours in the City of Pasadena. Segments of the Phase I Project are located near the Rose Bowl Stadium, which is subject to large amounts of traffic during displacement events, and would require a traffic plan for displacement events, and coordination between PWP and Rose Bowl operators on construction timing and duration during displacement events. Consistent with City of Pasadena standards, a Construction Staging and Traffic Management Plan would be developed. Operation of the Project is anticipated to generate up to 5 daily vehicle trips (round trips) per day, which will not substantially impact traffic conditions on existing roadways.

Mitigation Measure 3.16-1 would require the development and implementation of a Construction Staging and Traffic Management Plan to ensure traffic impacts from project construction are minimized such that potential congestion can be managed, and roadway safety can be maintained, thereby, reducing the impact to a less than significant level.

2. Conflict with an applicable congestion management program, 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 (**Impact 3.16-2**).

Without mitigation, the Project has the potential to result in effects on alternative transportation during construction from temporary lane and road closures (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.16-1**, which will reduce this impact to a less than significant level.

Mitigation Measure 3.16-1 ***See Above.***

b. Facts in Support of Findings

Project construction is anticipated to generate up to 30 round trips per day, less than the Los Angeles County Congestion Management Plan threshold of 50 or more peak hour trips on a freeway on- or off-ramp. Temporary lane and road closures could affect

alternative transportation during construction. Operation of the Project will not affect any modes of transportation because Project facilities will not include infrastructure that would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities on a long-term basis.

Mitigation Measure 3.16-1 would require the development and implementation of a traffic management plan and requires concurrence from affected jurisdictions that the plan is compliant with applicable traffic-related plans, ordinances, and policies, thereby reducing the impact to a less than significant level.

3. Increase hazards (to motorists, bicyclists, or pedestrians) due to a design feature (e.g., sharp curves or dangerous intersection), other features, or incompatible uses (**Impact 3.16-3**).

Without mitigation, the Project has the potential to result in temporary safety hazards from temporary changes to configurations of intersections and roadways within the Study Area (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measure 3.16-1**, which would reduce this impact to a less than significant level.

Mitigation Measure 3.16-1 ***See Above.***

b. Facts in Support of Findings

During construction, the Project may temporarily change the configuration of intersections and roadways within the Study Area. Specifically, lane and/or road closures would be required where pipelines would be installed in street rights of way. Construction equipment and material would be staged temporarily either within the construction zone on roads or vacant parcels near the construction area. Once constructed, the Project will not increase safety hazards for the public because all pipelines would be buried, and above ground structures would be located within developed areas or vacant lands dedicated for the operation of the non-potable facilities

Mitigation Measure 3.16-1 would require the development and implementation of a traffic management plan that includes safety measures to reduce potential for increased hazards to motorists, bicycles, or pedestrians to a less than significant impact.

4. Result in inadequate emergency access (**Impact 3.16-4**).

Without mitigation, the Project has the potential to result in temporary affects to emergency access from temporary lane and street closures and changes to traffic flow during construction (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of **Mitigation Measures 3.8-5** and **3.16-1**, which would reduce this impact to a less than significant level.

Mitigation Measure 3.8-5 ***See Above.***

Mitigation Measure 3.16-1 ***See Above.***

b. Facts in Support of Findings

Lane and street closures, coupled with traffic flow changes resulting from the Project's construction activities could potentially affect emergency access. Mitigation Measure 3.8-5 requires development of emergency access strategies and coordination with local emergency services providers. Mitigation Measure 3.16-1 would require the development and implementation of a traffic management plan to reduce impacts to traffic and maintain access. Implementation of these measures would reduce potential impacts to emergency access capacities to a less than significant level.

J. UTILITIES AND SERVICE SYSTEMS

1. Result in disruption of utilities (**Impact 3.17-1**).

Without mitigation, the Project has the potential to result in conflicts with existing utilities, particularly underground utility lines in roadways and possibly overhead lines; and temporary interruption or relocation of utility service during construction activities (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of Mitigation Measures 3.17-1a and 3.17-1b, thus reducing the impacts to less than significant levels.

Mitigation Measure 3.17-3a: Coordinate relocation and interruptions of service with utility providers during construction. The construction contractor will contact Underground Service Alert (800/642-2444) at least 48 hours before excavation begins to verify the nature and location of underground utilities. The contractor will notify and coordinate with public and private utility providers at least 48 hours before the start of work adjacent to any utility, unless the excavation permit specifies otherwise. The service provider will be notified in advance of service interruptions and will be given sufficient time to notify customers. The timing of interruptions will be coordinated with the service providers to minimize the frequency and duration of interruptions.

Mitigation Measure 3.17-3b: Protect existing utilities. The construction contractor will be responsible for protecting utility facilities. Exposed pipelines will be temporarily supported during construction, concrete cradles between existing and proposed pipelines will be installed when a minimum vertical clearance is not available,

and a minimum separation distance of five feet from all existing utility lines will be maintained to the extent possible. Existing utility mapping obtained from the service providers will be utilized during final design in addition to potholing (temporarily exposing buried utilities to determine horizontal and/or vertical location) during design and construction. Service providers and Underground Service Alert will also be contacted to mark lines prior to excavation.

b. Facts in Support of Findings

Construction of pipelines could conflict with existing utilities, particularly underground utility lines in roadways and possibly overhead lines. Construction of underground pipelines could result in temporary interruption of utility service (i.e., electricity, water, gas, sewers, and stormwater conveyance) or the need to relocate utility infrastructure.

Mitigation Measures 3.17-1a and 3.17-1b require protection of existing utilities, and coordination with appropriate organizations to identify, avoid, and protect existing utility facilities. These measures require appropriate notification of potential service disruptions and construction activities, where necessary, to increase awareness and allow for preparation and coordination of potential service disruptions. Implementation of these measures would ensure the project would minimize impacts to existing facilities, reducing impacts to a less than significant level.

K. MANDATORY FINDINGS OF SIGNIFICANCE

1. The Project has potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory (**Impact 5.3-10**).

Without mitigation, the Project has the potential to result in degradation of the environment, as described above (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of six mitigation measures (Mitigation Measures 3.4-1a to 3.4-4) for Biological Resources, and fourteen mitigation measures (Mitigation Measures 3.5-1a to 3.5-3d) for Cultural Resources, which, when combined, will reduce the potential of the project to degrade the quality of the environment, impact fish, wildlife, or plant species, populations, or communities, to reduce the number or restrict the range of a rare or endangered plant or animal, or to eliminate important examples of the major periods of California history or prehistory to a less than significant impact.

Mitigation Measure 3.4-1a ***See Above.***

Mitigation Measure 3.4-1b ***See Above.***

Mitigation Measure 3.4-1c ***See Above.***

Mitigation Measure 3.4-2 ***See Above.***

Mitigation Measure 3.4-3 ***See Above.***

Mitigation Measure 3.4-4 ***See Above.***

Mitigation Measure 3.5-1a ***See Above.***

Mitigation Measure 3.5-1b ***See Above.***

Mitigation Measure 3.5-1c ***See Above.***

Mitigation Measure 3.5-1d ***See Above.***

Mitigation Measure 3.5-1e ***See Above.***

Mitigation Measure 3.5-1f ***See Above.***

Mitigation Measure 3.5-2a ***See Above.***

Mitigation Measure 3.5-2b ***See Above.***

Mitigation Measure 3.5-2c ***See Above.***

Mitigation Measure 3.5-2d ***See Above.***

Mitigation Measure 3.5-3a ***See Above.***

Mitigation Measure 3.5-3b ***See Above.***

Mitigation Measure 3.5-3c ***See Above.***

Mitigation Measure 3.5-3d ***See Above.***

b. Facts in Support of Findings

Potential impacts from the Project that could degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory are addressed in the other impact analyses for this Project. Mitigation Measures 3.4-1a to 3.4-4 would be implemented to reduce the potential for biological resources-related impacts to less than significant levels. Mitigation Measures 3.5-1a to 3.5-3d would be implemented to reduce the potential for cultural and historical resources-related impacts to less than significant levels.

2. <u>The Project has the potential to have impacts that would be individually limited, but cumulatively considerable. ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) (**Impact 5.3-2**)</u>.

Without mitigation, the Project has the potential to result in cumulatively considerable impacts to some resources when evaluated alongside the cumulative projects listed in *Section 4.2.3 Cumulative Effects* in the Draft EIR (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of all Mitigation Measures included in the Final EIR which, when combined with **Mitigation Measure CUM-1**, will reduce the potential of the project to have cumulatively considerable impacts to a less than significant level.

Implement All Mitigation Measures

Mitigation Measure CUM-1: The City and/or its Contractor shall coordinate with Los Angeles Flood Control District and Los Angeles County Department of Public Works and their contractor for the sediment removal and reservoir management activities to ensure that roadway impacts are minimized during proposed Project construction, either through the use of different haul routes or through timing of construction such that it does not occur during the reservoir management phase.

b. Facts in Support of Findings

While the cumulative projects listed in *Section 4.2.3 Cumulative Effects* in the Draft EIR could have cumulatively considerable impacts to some resources, the proposed Project's contribution to potential cumulative impacts will not be cumulatively considerable with implementation of all Mitigation Measures in the Final EIR, with the exception of Traffic and Transportation impacts. The proposed Project would be implemented concurrently with the Devil's Gate Reservoir Sediment Removal and Management Project, which could utilize the same roads for project-related traffic. Implementation of **Mitigation Measure CUM-1**, which requires additional coordination with Los Angeles County agencies implementing the sediment removal project, would reduce potential cumulative traffic impacts to less than significant levels. Implementation of these mitigation measures would avoid or substantially lessen the significant environmental effect identified for the proposed Project to less than significant levels.

3. The Project has the potential to have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly (**Impact 5.3-3**).

Without mitigation, the Project has the potential to result in environmental effects that would have a substantial adverse effects on human beings (All Phases).

a. Findings

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the Final EIR. An MMRP has been adopted to require implementation of all Mitigation Measures included in the Final EIR, which will reduce the potential for the project to have substantial adverse effects on human beings to a less than significant impact.

Implement All Mitigation Measures

b. Facts in Support of Findings

Any potential environmental effects of the Project that would have substantial adverse effects on human beings were addressed throughout this analysis. Implementation of all Mitigation Measures in the Final EIR would avoid or substantially lessen the significant environmental effects identified for the proposed Project, including all potential adverse impacts on human beings, to less than significant levels.

VII. Adoption of Mitigation Measures

The City Council finds that some of the measures identified may also be within the jurisdiction and control of other agencies. To the extent any of the mitigation measures are within the jurisdiction of other agencies, the City Council finds those agencies can and should implement those measures within their jurisdiction and control.

VIII. Findings Regarding Significant and Unavoidable Effects

The City of Pasadena has determined that there are no potentially significant and unavoidable effects resulting from the proposed Project. Mitigation measures proposed in the Final EIR will mitigate adverse environmental impacts to less-than-significant levels.

IX. Project Alternatives.

The City Council considered a range of reasonable alternatives for the proposed Project including, Alternative 1 – No Project Alternative, Alternative 2 – No Funding from U.S. Bureau of Reclamation Alternative, Alternative 3 - Reduced Intensity Alternative, and Alternative 4 – No Tunnel Water Alternative.

Alternatives 1, 2, 3, and 4 were analyzed in the EIR and are discussed below. In addition, the basis for rejecting each of these alternatives is discussed.

A. ALTERNATIVE 1 – NO PROJECT

1. Summary of Alternative

The No Project Alternative is the “business as usual” alternative, wherein there would be no recycled and non-potable water distribution systems and no expansion of non-potable water use within the project areas. PWP would continue to meet water demands with imported water and groundwater. Anticipated future growth would be served with potable water, and PWP would need to increase their water purchases, develop alternative supplies, implement other conservation programs, or complete other water projects to free potable demand. PWP’s recycled water allocation from LAG would continue to be discharged into the Los Angeles River unused.

2. Reasons for Rejecting Alternative 1

The No Project Alternative would not meet any of the objectives of the Proposed Project such as increasing water supply availability and reliability (beyond existing conditions) and utilizing existing non-potable water supplies to offset demands for imported water sources.

The City Council finds that this Alternative does not avoid or substantially lessen any of the significant effects of the proposed Project because any impacts resulting from the proposed Project can be satisfactorily mitigated to less than significant levels and therefore the Project will not result in significant environmental effects. In addition, the No Project Alternative fails to fulfill the fundamental project objectives.

The City Council hereby finds that the reasons set forth above for rejecting Alternative 1, by itself, and independent of any other reason, justifies rejection of Alternative 1.

B. ALTERNATIVE 2 – NO FUNDING FROM U.S. BUREAU OF RECLAMATION ALTERNATIVE

1. Summary of Alternative

This alternative would not change the proposed Project, but would require other budgetary arrangements. It would meet all of the objectives of the proposed Project in that it would maximize the use of local water supplies, reduce reliance on imported water, maximize the use of the City's existing water rights, improve water supply reliability, secure a non-potable water source that will be available in droughts, and use sources that are cost-effective. However, additional project costs would be borne by PWP's customer base.

2. Reasons for Rejecting Alternative

The City Council finds that this Alternative does not and could not avoid or substantially lessen any of the significant effects of the proposed Project because any impacts resulting from the proposed Project can be satisfactorily mitigated to less than significant levels and therefore the Project will not result in significant environmental effects. The City Council finds that this Alternative will increase project costs without providing a significant benefit in return.

The City Council hereby finds that each of the reasons set forth above would be an independent ground for rejecting Alternative 2, and by itself, independent of any other reason, justifies rejection of Alternative 2.

C. ALTERNATIVE 3 – REDUCED INTENSITY ALTERNATIVE

1. Summary of Alternative

Alternative 3, the Reduced Intensity Alternative, would construct only Phase I, Southern Extension I and II, and Annandale Extension. It would not include the Northeastern or Northwestern Extensions. Accordingly, it would only deliver 2,300 AFY non-potable water to customers.

2. Reasons for Rejecting Alternative

The City Council finds that this Alternative does not avoid or substantially lessen any of the significant effects of the proposed Project because any impacts resulting from the proposed Project can be satisfactorily mitigated to less than significant levels and therefore the Project will not result in significant environmental effects. In addition, the Reduced Intensity Alternative fails to fulfill the fundamental project objectives. This alternative meets some of the objectives of the proposed Project, including use of sources that are cost effective. However, it would not meet the objectives of the proposed Project to maximize the use of local water supplies, minimize reliance on imported water, or maximize the use of the City's existing water rights as it would not develop the Arroyo Seco surface water supplies that would add to the overall yield of the water supply nor use the full entitlement for recycled water.

The City Council hereby finds that each of the reasons set forth above would be an independent ground for rejecting Alternative 3, and by itself, independent of any other reason, justifies rejection of Alternative 3.

D. ALTERNATIVE 4 – NO TUNNEL WATER ALTERNATIVE

1. Summary of Alternative

Alternative 3, the No Tunnel Water Alternative, would construct all of the same facilities as the proposed Project with the exception of facilities associated with collecting, storing, and distributing tunnel water. It would produce a smaller non-potable water yield (2,600 AFY), and would achieve similar objectives as the proposed Project, although to a lesser degree.

2. Reasons for Rejecting Alternative

The City Council finds that this Alternative does not avoid or substantially lessen any of the significant effects of the proposed Project because any impacts resulting from the proposed Project can be satisfactorily mitigated to less than significant levels and therefore the Project will not result in significant environmental effects. In addition, the No Tunnel Water Alternative fails to fulfill the fundamental project objectives. Without tunnel water, this alternative would not maximize the use of local water supplies and the use of PWP's existing water rights. Without the additional water supply, PWP could not effectively reduce reliance on imported water or improve water supply reliability by providing a new local, dependable, environmentally sustainable water source.

The City Council hereby finds that each of the reasons set forth above would be an independent ground for rejecting Alternative 4, and by itself, independent of any other reason, justifies rejection of Alternative 4.

The City Council further finds that the environmentally superior alternative is the No Project Alternative, and the Reduced Intensity Alternative is the environmentally superior alternative among all other alternatives, because although the proposed Project will not result in significant environmental impacts, the No Project Alternative and the Reduced Intensity Alternative would result in fewer non-significant environmental impacts. However, neither the No Project Alternative nor the Reduced Intensity Alternative would meet the fundamental project objectives, and the City Council therefore rejects the No Project Alternative and the Reduced Intensity Alternative.

EXHIBIT B

Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

for the

Pasadena Non-Potable Water Project Environmental Impact Report

SCH#: 2014081091

Prepared for:

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January 2016

Chapter 1 Mitigation Monitoring and Reporting Program

Mitigation measures have been identified in the Environmental Impact Report ("EIR") for ***Pasadena Non-Potable Water Project*** (Proposed Project) to reduce the environmental impacts of the Proposed Project to less than significant levels ~~where possible~~. Pasadena Water and Power ("PWP") and their contractors are required to implement the adopted mitigation measures for the Proposed Project in accordance with the EIR. This Mitigation Monitoring and Reporting Program ("MMRP") contains a checklist and description of all adopted mitigation measures, including, the responsible parties for monitoring and reporting, the implementation schedule, the monitoring actions, the completion criteria, and the effectiveness of the mitigations.

1.1 Program Administration

The MMRP will be administered by PWP. Mitigation measures will be incorporated into design and construction contracts, as appropriate, to ensure full implementation. Certifications of compliance from other relevant agencies will be obtained as needed. No authorization to commence any activity on site shall be granted prior to receipt of certifications.

1.2 Project Description

The *Pasadena Non-Potable Water Project* involves the construction and operation of a new non-potable water distribution system to deliver water from three local water sources to customers within the service areas of PWP, Foothill Municipal Water District and their member agencies (including Lincoln Avenue Water Company, Valley Water Company, Las Flores Water Company, and Rubio Canyon Land and Water Association), and California American Water Company for landscape irrigation, cooling, and other non-potable uses:

(1) recycled water produced by the Los Angeles/Glendale (LAG) Water Reclamation Plant,

(2) tunnel water from Devils Gate and Richardson Springs, and

(3) surface water from Arroyo Seco stream.

The three water supplies included within the proposed Project (recycled water, tunnel water, and surface water) are collectively referred to as "non-potable water supplies".

Build-out of the proposed Project would supply over 3,000 acre-feet per year (AFY) of non-potable water from the three supply sources to 51 customers. Tunnel water and Arroyo Seco stream water are subject to climatic conditions and may not be available for extended periods of time; when those two supplies are not available, the entire non-potable demand will be met with recycled water from LAG.

The proposed Project includes phased construction of a new non-potable water infrastructure including pipelines, storage reservoirs, pressure reducing stations, and pump stations, and consists of the following six phases:

- Phase I Project
- Phase II - Southern Extension I
- Phase III - Southern Extension II
- Phase IV - Annandale Extension
- Phase V - Northwestern Extension
- Phase VI - Northeastern Extension

1.3 Mitigation Monitoring Requirements

A mitigation monitoring checklist has been developed for the Proposed Project, and is intended for use by PWP as lead agency and designated monitoring entity for the multiple components of the Proposed Project. The checklist, presented as **Table 1**, summarizes the mitigation requirements for the Proposed Project, and identifies the timing and responsible parties for ensuring implementation of each mitigation measure. These mitigation measures are presented using the naming conventions and categories in the EIR.

Table 1: Mitigation Monitoring and Reporting Program for the *Pasadena Non-Potable Water Project*

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Aesthetics							
Impact 3.1-1: Potential for substantial damage to scenic vista, scenic resources, and/or degradation of the existing visual character or quality of the site and its surroundings.	**MM 3.1-1: Vegetation Screening and Design Features to Reduce Visual Impacts.** Prior to construction, PWP's contractor will submit design plans to the City of Pasadena's Department of Public Works for review and approval. The contractor will also work with any other potentially affected jurisdictions within the Study Area (City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena) to ensure that the jurisdictions concur with the conclusions of the design plans. Relevant adopted design guidelines and municipal codes will be used in preparing the design plans to determine vegetation type, spacing, and height. The design plans will stipulate vegetation screening and design features that will be implemented to ensure that the post-construction visual setting of the Study Area is not substantially impacted beyond existing conditions. Landscaping specified in the design plans will include re-vegetation of disturbed areas to minimize contrasts with the existing vegetation and to screen facilities from surrounding neighborhoods. In addition, proposed facilities will be painted low-glare earth-tone colors that blend with the surrounding terrain, consistent with the colors of the existing reservoirs.	PWP: • Phase I Project • Annandale Extension • Northwestern Extension	PWP, in collaboration with City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena	1. Confirm that visual and screening measures are incorporated into design plans. 2. Submit design plans to Pasadena's Department of Public Works for review and approval and documentation of coordination with other potentially affected jurisdictions. 3. Verify that visual and screening measures were implemented. 4. Document restoration to pre-construction conditions.	1. Design 2. Design 3. Post-construction 4. Post-construction	1._____ 2._____ 3._____ 4._____	
Biological Resources							
Impact 3.4-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department	**Mitigation Measure 3.4-1a: Pre-Construction Surveys for Sensitive Wildlife Species, Coast Horned Lizard (Phase I Project).** PWP will conduct pre-construction special-status reptile surveys for presence of coast horned lizard in areas where suitable native habitat occurs no more than 30 days prior to the commencement of project construction. Habitat types suitable for the coast horned lizard include chaparral, scrub, woodlands, and grasslands with open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects. These areas generally occur along the Phase I alignment west of Afton Street and the Art Center College of Design. If any of these animals are detected, they will be relocated to undeveloped	PWP: • Phase I Project	PWP	1. Confirm that pre-construction surveys are included in contract documents. 2. Confirm completion of pre-construction surveys. 2. Confirm that if coast horned lizard are found, they are relocated and	1. Pre-construction 2. Pre-construction 3. Pre-construction	1._____ 2._____ 3._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
of Fish and Wildlife ("CDFW") or U.S. Fish and Wildlife Service (USFWS").	areas prior to the commencement of construction, and provisions will be made to prevent their reentry to the site, such as by the placement of silt fencing or other means that would provide a physical barrier to movement.			provisions are made to prevent reentry to the site.			
Impact 3.4-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	**Mitigation Measure 3.4-1b: Habitat Assessments and Focused Surveys for Sensitive Plant Species (Phase V - Northwestern Extension).** For the Northwestern Extension, PWP will conduct habitat assessments and focused surveys (where suitable habitat is present) for sensitive plant species prior to the initiation of construction within areas supporting native habitat, such as the area associated with the Jet Propulsion Laboratory ("JPL") reservoir pipeline and small area behind Behner Water Treatment Plant ("WTP"). Surveys will be conducted in accordance with provisions contained within *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). If there are no sensitive species on the site, no further mitigation is required. In the event that sensitive plant species are found on site, they would be avoided to the extent practicable, such as through modifying the pipeline alignment to avoid sensitive species habitat or utilizing trenchless methods for sensitive habitat crossings. Should it be infeasible to avoid impacts that are determined to be significant, an effective mitigation plan would be required. If required, measures to mitigate significant impacts to sensitive plant species will include the preparation of a Revegetation and Monitoring Plan ("RMP"). The RMP will be consistent with recommendations provided by the CDFW, professional restoration ecologists, and professional botanists familiar with the potentially impacted species. Mitigation ratios will be at least 1:1 for number of individuals impacted. Specific measures to be included in the RMP would include one or more of the following elements, as appropriate for the species and population size. • Protection of mitigation "set asides" (land conserved into perpetuity) and transplantation receiver site(s), including the recordation of a conservation easement or deed restriction and related best management practices ("BMPs") such as protective fencing;	PWP: • Phase V - Northwestern Extension	PWP, in consultation with USFWS and CDFW as appropriate	1. Confirm that habitat assessments and focused surveys are included in contract documents. 2. Confirm completion of habitat assessments and focused surveys for sensitive plant species. 3. Confirm that, if sensitive plant species are found, they are avoided to the extent feasible. 4. Document development of RMP by a qualified botanist consistent with recommendations from regulatory agency and professionals, if sensitive species found on site and infeasible to avoid. 5. Verify that the RMP meets the required minimum mitigation ratio.	1. Pre-construction 2. Pre-construction 3. Pre-construction 4. Pre-construction 5. Pre-construction 6. Construction 7. Post-construction	1._____ 2._____ 3._____ 4._____ 5._____ 6._____ 7._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	• The selection of a transplantation receiver site or sites. These sites will be chosen with an emphasis placed on both ecological suitability to allow for maximum survival rate of transplants as well as the minimization of impacts to existing quality habitat; • Collection of seed, cuttings, or entire plants from Study Area; and • Propagation of species from seed or cutting by an approved nursery or botanical garden (e.g., Rancho Santa Ana Botanic Garden) for future transplantation to receiver sites. The RMP will contain mapping of plant species locations at the project site; monitoring requirements for assessing mitigation success; and performance metrics to measure mitigation success.			6. Document implementation of RMP during construction. 7. Monitor success of mitigation, as directed in RMP.			
Impact 3.4-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	**Mitigation Measure 3.4-1c: Assessments and Focused Surveys for Sensitive Wildlife Species.** For the Northwestern Extension, PWP will conduct habitat assessments and focused surveys (where suitable habitat is present) for sensitive wildlife species (specifically the coastal California gnatcatcher) prior to the initiation of construction within areas supporting native habitat, such as the area associated with the JPL reservoir pipeline and small area behind Behner WTP. Habitat types suitable for the California gnatcatcher include coastal sage scrub, while suitable habitat for other sensitive wildlife species generally include native chaparral, scrub, woodlands, and grasslands. These surveys will be conducted by a qualified biologist in accordance with appropriate USFWS or CDFW provisions. In the event that sensitive wildlife species are found on-site, if it is infeasible to avoid impacts and impacts are determined to be significant, mitigation will be required by the lead agency. If present, mitigation for coastal California gnatcatcher will include on- and/or off-site creation, restoration, enhancement, and/or preservation of coastal California gnatcatcher habitat at a ratio no less than 3:1 for permanent impacts. Mitigation for potential impacts to federally-listed species (i.e., the coastal California gnatcatcher) would require a Section 7 Consultation (if a federal nexus is established from an “agency action”). Since PWP is applying for federal funding from the United States Bureau of	PWP: • Phase V - Northwestern Extension	PWP, in consultation with USFWS and CDFW as appropriate	1. Confirm that habitat assessments and focused surveys are included in contract documents. 2. Confirm completion of habitat assessments and focused surveys for sensitive wildlife species. 3. If sensitive wildlife species are impacted, confirm that appropriate USFWS and/or CDFW consultation was completed. 4. If sensitive wildlife species are impacted, verify that a mitigation plan was developed and implemented.	1. Pre-construction 2. Pre-construction 3. Pre-construction 4. Pre-construction and Construction 5. Construction 6. Construction	1._____ 2._____ 3._____ 4._____ 5._____ 6._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	Reclamation ("USBR"), a Section 7 Consultation would be required. The Section 7 process requires a Biological Assessment and consultation with the USFWS, which will issue a Biological Opinion. To avoid the direct loss of special-status bat species that could result from disturbance to maternity roost habitat (e.g., trees, structures, tunnels), disturbance will be scheduled between October 1 and February 28, outside of the maternity roosting season. If disturbances are to occur during maternity season from March 1 to September 30, at least one night emergence survey must be performed by a qualified biologist a minimum of three days prior to the commencement of project construction to determine bat presence/absence. Any maternity roosts within the development footprint and a 200-foot buffer will be left in place and undisturbed until the end of the maternity season. Prior to issuing a permit to clear vegetation, the City of Pasadena will verify that any necessary surveys for wildlife species have been conducted and an effective mitigation plan has been prepared if sensitive wildlife species are found during the focused surveys. An effective mitigation plan would include provisions for avoidance, on- and/or off-site habitat creation, restoration, enhancement, and/or preservation at a ratio no less than 3:1 for permanent impacts. Mitigation for potential impacts to federally-listed species will be in accordance with the Federal Endangered Species Act. In the event the surveys determine the absence of sensitive species from the site, no further mitigation is warranted.			5. Confirm that construction activities occurred outside of the maternity roosting season or avoided active roosts. 6. Monitor construction activities to verify that wildlife protection measures are implemented during construction.			
Impact 3.4-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	**Mitigation Measure 3.4-2: Field Assessment and Mapping of the Native Habitats.** A field assessment following the methodology in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009), and mapping of the native habitats within the Northwestern Extension alignment will be conducted by a qualified biologist to determine the presence/absence of sensitive plant communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Revegtation and Monitoring Plan ("RMP") will be prepared <u>prior to initiation of construction</u> to offset impacts to those sensitive plant communities. The RMP will focus on the creation of equivalent habitats within disturbed habitat areas of the project site and/or off-site. In	PWP: • Phase V - Northwestern Extension	PWP, in consultation with USFWS and CDFW as appropriate	1. Confirm completion of field assessment and mapping of native habitats. 2. Confirm completion of RMP, if needed. 3. Verify that the RMP meets the required minimum mitigation ratio. 4. Document implementation of	1. Pre-construction 2. Pre-construction 3. Pre-construction 4. Construction 5. Post-construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	addition, the plan will provide details as to the implementation of the plan, maintenance, and future monitoring. Mitigation for impacts would be offset by on- or off-site replacement, restoration, or enhancement of each respective sensitive plant community at a mitigation ratio of no less than 1:1 in one or more of the following ways: • Transplantation of the plant community species, • Seeding of the plant community species, • Planting of container plants of the plant community species, and/or • Salvage of duff and seed bank and subsequent dispersal. The preferred restoration method is seeding of the plant community species, which will be pursued as a first resort whenever practicable. The RMP will contain monitoring requirements for assessing mitigation success, and performance metrics to measure mitigation success.			RMP during construction. 5. Monitor success of mitigation, as directed in RMP.		5._____	
Impact 3.4-3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (“CWA”) (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	**Mitigation Measure 3.4-3: Complete Jurisdictional Delineation and Necessary Mitigation Where the Annandale and Northwestern Extensions Cross Arroyo Seco Channel**. A jurisdictional delineation will be conducted prior to any ground disturbing activities in both the Annandale and Northwestern Extensions where the proposed pipelines cross sections of the Arroyo Seco channel. The Annandale and Northwestern Extensions propose to avoid impacts to jurisdictional waters by jack-and-bore or horizontal directional drilling outside of United States Army Corp of Engineers (“USACE”)/Los Angeles Regional Water Quality Control Board (“LARWQCB”)/CDFW jurisdiction to install the pipeline. Although no impacts to jurisdictional waters are anticipated, there is a slight potential for frac-out[1] release to occur. Thus, as a contingency measure, the following measure would be implemented to minimize any potential impacts to jurisdictional features:	PWP: • Phase IV - Annandale Extension • Phase V- Northwestern Extension	PWP, in consultation with USACE, LARWQCB, and/or CDFW as appropriate	1. Confirm completion of jurisdictional delineation. 2. If trenchless technology is used – Confirm completion of frac-out contingency plan and provisions to avoid/contain pollutants. 3. If trenchless technology is used – Verify that frac-out contingency plan was implemented during construction.	1. Design 2. Pre-construction 3. Construction 4. Pre-construction 5. Construction	1._____ 2._____ 3._____ 4._____ 5._____	

[1] *Frac out is an inadvertent release of drilling/tunneling fluid or sediment laden groundwater into a wetland or watercourse.*

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	• A contingency plan to contain potential frac-out release or other emergency will be prepared by the contractor and approved by the project engineer) prior to jack-and-bore or horizontal directional drilling, as well as the provisions in place to avoid/contain pollutants in case of an accident (e.g., should frac-out release occur). This plan will minimize drilling pressures to keep the mud from fracturing out of the soil, include procedures to stop drilling immediately if frac-out occurs, and outline containment and cleanup for any frac-out, including use anionic polymers to remove suspended bentonite from water. • If the pipeline is installed with an open trench and would result in impacts to USACE, LARWQCB, and/or CDFW jurisdictional features, the following permits from regulatory agencies must be obtained for impacts to a jurisdictional feature: CWA Section 404 Nationwide Permit from USACE, CWA Section 401 Water Quality Certification from LARWQCB, and California Fish and Game Code ("CFGC") Section 1602 Streambed Alteration Agreement from CDFW. Compliance with applicable permits will fully mitigate (at minimum 1:1 ratio) direct and indirect impacts to jurisdictional waters.			4. If open trench construction is used – confirm that appropriate permits have been obtained and incorporated in contract documents. 5. If open trench construction is used – Verify that permit requirements (including mitigation) have been met.			
Impact 3.4-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites.	**Mitigation Measure 3.4-4: Avoid Migratory Bird Nesting Season or Complete Surveys Before Construction Activities.** Mitigation for potential impacts to nesting songbirds and raptors and for the taking of migratory bird species can be accomplished in one of two ways. First, efforts will be made to schedule all vegetation removal activities between September 1 to February 14, outside of the nesting season (since nesting activity typically occurs from February 15 to August 31) to avoid potential impacts to nesting birds. This would ensure that no active nests would be disturbed and that vegetation removal could proceed rapidly. Secondly, if vegetation removal must occur during the nesting season, all suitable habitat will be thoroughly surveyed for the presence of nesting birds by a qualified biologist a minimum of three (3) days but no more than seven (7) days before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) will be delineated, flagged, and avoided	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension	PWP	1. Verify that all vegetation removal will occur between September 1 and February 14, where feasible. 2. Confirm that pre-construction surveys are completed, if vegetation removal must occur during the nesting season. 3. Confirm that buffer zones have been	1. Pre-construction 2. Pre-construction 3. Pre-construction 4. Construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	until the nesting cycle is complete as determined by the biological monitor to minimize impacts.	• Phase VI Northeastern Extension		established, if applicable. 4. Verify that monitoring of construction activities occurs until the nesting cycle is complete, if needed.			
Cultural Resources							
Impact 3.5-1: Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American Burials, pursuant to §15064.5	**Mitigation Measure 3.5-1a: Monitor and Report Construction Excavations for Archeological Resources in Less Elevated Areas.** PWP will retain a qualified archaeological monitor to be present during construction excavations such as grading, trenching, grubbing, or any other construction excavation activity associated with the proposed Project. A "qualified" archaeological monitor is one who possesses appropriate and applicable credentials and/or training to identify and/or assess the cultural resources that can reasonably be anticipated as the most likely type of cultural resource to be found, if any are encountered, based on the results of the cultural resources assessment completed for the proposed Project. These credentials include a bachelor's degree in archaeology, anthropology, geology, or closely related field and at least one year of archaeological fieldwork or laboratory experience in California. At least two years of fieldwork experience can substitute for a degree. The monitor who conducts the monitoring at the Sheldon Reservoir Site shall have additional qualifications that include the completion of a Human Osteology (or similar) course, or the completion of training in identifying human remains, or has conducted at least one month of fieldwork or laboratory work involving human remains and/or associated grave goods. The monitor will observe all excavations in the less elevated areas of the Study Area. These areas include the portions of the Study Area that traverse these Pasadena streets and/or areas: Rose Bowl Drive, N. Arroyo Blvd., Washington Blvd., Parkview Ave., Laurel St., Linda Vista Ave., segments of Afton St, and Brookside Golf Course. These areas also include the grading for the proposed Sheldon Non-Potable Water Reservoir and pressure-	PWP: • Phase I Project • Phase V-Northwestern Extension	PWP	1. Confirm that archeological monitor is included in contract documents. 2. Verify that archeological monitoring of excavation activities occurs, as outlined. 3. Confirm that that buffer zones have been established at Sheldon Non-potable Water Reservoir site. 4. Confirm that archeological monitor has filed the final report to applicable agencies.	1. Pre-construction 2. Construction 3. Construction 4. Post-construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	reducing station, the Brookside booster pump station, the hydroelectric generation turbine facility, and the tunnel water pump station and wet well facilities. The more elevated areas of the Study Area (i.e., the areas within the San Rafael Hills to the west and the San Gabriel Mountains to the north) will not be monitored because these areas consist of igneous and metamorphic rocks that are not conducive to retaining archaeological resources. These areas include the portions of the Study Area that traverse these Phase I Project segments: Scholl Canyon Landfill Site Access Roads, Undeveloped Ridge, and Art Center College of Design (Art Center)/LA County Flood Control District Access Road. The frequency of monitoring will be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the archaeological monitor. Specifically, due to the potential location of buried cultural resources on the southwest portion of the Sheldon Non-potable Water Reservoir site, the construction contractors will protect the area from disturbance with a 4-foot tall fence around the extent of each potential cultural resource site (TOI 1, Anomaly 1, and Anomaly 2), including a 10-foot buffer all around the edge of each potential site. Construction will be outside of the ten foot buffer. The fence and buffer limits will be shown on the final design plans for the Sheldon Non-potable Water Reservoir in Phase I and the pressure reducing station in Northwestern Extension. The archaeological monitor will prepare a final report at the conclusion of archaeological monitoring to be reviewed and accepted by PWP. The archaeological monitor will file the report with the PWP, the City of Pasadena, and the South Central Coastal Information Center. The report will include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the California Register of Historical Resources and the National Register of Historic Places.						

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Impact 3.5-1: Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American Burials, pursuant to §15064.5	**Mitigation Measure 3.5-1b: Cease Ground-Disturbing Activities and Report if Archaeological Resources are Encountered.** If archaeological resources (historic or prehistoric) are encountered during implementation of the proposed Project, ground-disturbing activities will temporarily be redirected from the vicinity of the find. A buffer area of at least 25 feet will be established around the find where construction activities will not be allowed to continue. Work will be allowed to continue outside of the buffer area. PWP will immediately notify the United States Bureau of Reclamation ("USBR") of the find. The USBR will then comply with procedures outlined in 36 CFR 800.13. The USBR will coordinate with PWP as to the immediate treatment of the find until a proper site visit and evaluation is made by the USBR. The USBR may request the assistance of a qualified archaeological consultant to assist in compliance with 36 CFR 800.13. The USBR will prepare a final report about the find to be filed with the Project Sponsor and the South Central Coastal Information Center. The report will include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the California Register of Historical Resources and the National Register of Historic Places. PWP, in consultation with the USBR and the landowner, will designate repositories in the event that resources are recovered. Any delays will be minimized to the extent practicable while adequately and appropriately handling any potential archaeological resources.	PWP: • Phase I Project	PWP, in collaboration with USBR	1. Confirm measure is included in contract documents. 2. Verify that work in the vicinity of an archeological find is stopped and a minimum 25 feet buffer zone is established. 3. Immediately notify USBR for the find and coordinate with USBR the procedures as outlined. 4. Document implementation of immediate treatment recommended by archaeologist. 5. Confirm completion and filing of the final report on the archeological find by USBR. 6. Document designation of repositories for potential recovered resources.	1. Pre-construction 2. Construction 3. Construction 4. Construction 5. Post-construction 6. Post-construction	1._____ 2._____ 3._____ 4._____ 5._____ 6._____	
Impact 3.5-1: Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American	**Mitigation Measure 3.5-1c: Cease Ground-Disturbing Activities and Report if Human Remains are Encountered.** If human remains are encountered unexpectedly during implementation of the proposed Project, State Health and Safety Code Section 7050.5 requires that no further disturbance will occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If	PWP: • Phase I Project	PWP, in collaboration with County Coroner and NAHC	1. Confirm measure is included in contract documents. 2. Verify that work in the vicinity of human remains is stopped	1. Pre-construction 2. Construction 3. Construction	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Burials, pursuant to §15064.5	the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission ("NAHC"). The NAHC will then identify the person(s) thought to be the Most Likely Descendent ("MLD"). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants will complete their inspection and make their recommendation within 48 hours of being granted access by the land owner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner will ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this Mitigation Measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner will discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment. Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative will inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. Any delays will be minimized to the extent practicable while adequately and appropriately handling any human remains that may be discovered during the course of the proposed Project.			and appropriate measures are taken. 3. Confirm appropriate notifications (County Coroner and/or NAHC) have occurred if human remains are encountered. 4. Document that human remains have been accorded appropriate treatment.	4. Post-construction	3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Impact 3.5-1: Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American Burials, pursuant to §15064.5	**Mitigation Measure 3.5-1d: Conduct Phase I Archaeological Resources Assessment for Future Extensions.** PWP will conduct a Phase I Archaeological Resources Assessment of the Future Extensions to identify any archaeological resources within the area of a proposed Project. The Phase I assessment will include cultural resources records searches through the South Central Coastal Information Center (as needed), a Sacred Lands File search through the Native American Heritage Commission and follow-up Native American consultation, and a pedestrian survey of the Study area (Note: surveys may not be required in areas that do not have the native ground surface exposed such as paved streets). Upon completion of any report on findings, the U.S. Bureau of Reclamation ("USBR") and State Historic Preservation Officer ("SHPO") will be consulted to allow for review and concurrence with the study findings. If resources are identified during the Phase I assessment, then a Phase II assessment will be required, as described in Mitigation Measure 3.5-1e. If no resources are identified as part of the assessment, then archaeological monitoring may be implemented as detailed in Mitigation Measures 3.5-1a, 3.5-1b, and 3.5-1c.	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP, in consultation with USBR and SHPO	1. Confirm completion of Phase I assessment. 2. Confirm consultation with USBR and SHPO for review and concurrence.	1. Design 2. Design	1._____ 2._____ 3._____	
Impact 3.5-1: Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American Burials, pursuant to §15064.5	**Mitigation Measure 3.5-1e: Conduct Phase II Archaeological Resources Assessment for Future Extensions, if Warranted.** If resources are identified during the Phase I assessment undertaken in Mitigation Measure 3.5-1d, a Phase II Archaeological Resources Assessment may be warranted if improvements or new public access is proposed in the vicinity of such resource, or if an alternate alignment is not selected. The Phase II assessment will evaluate the resource(s) for listing in the California Register of Historical Resources (per California Environmental Quality Act ["CEQA"]) and the National Register of Historic Places (per Section 106). If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II assessment may not be necessary. The need for a Phase II assessment will be determined by PWP, USBR, and SHPO. Methodologies for evaluating a resource can include, but are not limited to: subsurface archaeological excavations, additional background research, and coordination with interested individuals in the community.	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP, in consultation with USBR and SHPO	1. Confirm completion of Phase II assessment, if needed. 2. Confirm consultation with USBR and SHPO for review and concurrence.	1. Design 2. Design	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Impact 3.5-1: Potential to cause a substantial adverse change in the significance of a unique archaeological resource, including Native American Burials, pursuant to §15064.5	**Mitigation Measure 3.5-1f: Conduct Phase III Archaeological Resources Assessment for Future Extensions, if Warranted, and Develop Mitigation to Reduce Potential Impacts from Future Extensions.** If, as a result of the Phase II assessment, resources are determined eligible for listing, potential impacts to the resources will be analyzed and if impacts are significant and cannot be avoided, mitigation measures will be developed and implemented to reduce impacts to the resources. If avoidance is not feasible, then Phase III Archaeological Resources Assessments will be implemented. Phase III assessments can include, but are not limited to: additional subsurface archaeological excavations (i.e., data recovery) and/or archaeological monitoring during ground-disturbing activities. Coordination and concurrence with the USBR and SHPO regarding treatment or mitigation will be required. Mitigation measures could include, but are not limited to, the mitigation described in Mitigation Measures 3.5-1a, 3.5-1b, and 3.5-1c. The performance standard for this mitigation measure is to reduce potential impacts to archaeological resources to a less than significant level, which would require that any archaeological resources encountered during implementation of the proposed Project be handled in a method approved by appropriate archaeological and cultural monitors where avoidance of such resources is infeasible.	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP, in consultation with USBR and SHPO	1. Confirm completion of Phase III assessment, if needed. 2. Confirm consultation with USBR and SHPO for review and concurrence. 3. Confirm incorporation of treatment and mitigation measures into contract documents. 4. Monitor construction activities to verify that mitigation measures are implemented.	1. Design and Construction 2. Design and Construction 3. Pre-construction 4. Construction	1._____ 2._____ 3._____ 4._____	
Impact 3.1-1: Potential for substantial damage to scenic vista, scenic resources, and/or degradation of the existing visual character or quality of the site and its surroundings. Impact 3.5-2: Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.	**Mitigation Measure 3.5-2a: Comply with the Secretary of the Interior's Standards for Rehabilitation for pressure reducing station and the Brookside booster pump station, the hydroelectric generation turbine, and the tunnel water pump station to be constructed within the National Register-listed Pasadena Arroyo Parks and Recreation District.** The design of the new pressure reducing station and the Brookside booster pump station, the hydroelectric generation turbine, the tunnel water pump station and wet well facilities will comply with the Secretary of the Interior's Standards for Rehabilitation to help maintain the existing aesthetics associated with historical resources in the surrounding area. The new facilities will be designed with materials, massing, scale, size, features, and design elements that blend with the surrounding environment in accordance to Standards 9 and 10. The facility will not dominate the viewshed; the structure will appear secondary, lower in height, and screened with shrubs, trees, or	PWP: • Phase I Project	PWP	1. Confirm that designs of listed components comply with the Standards for Rehabilitation. 2. Confirm that final plans have been reviewed and confirmed by a qualified preservation consultant, prior to the issuance of a building permit. 3. Confirm that design components have	1. Design 2. Design 3. Pre-construction 4. Post-construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	other suitable plantings and landscape elements that are compatible with the historic park setting. If the facility is constructed in accordance with the Secretary of the Interior's Standards, the Proposed Undertaking would not detract from the historic character and integrity of Pasadena Arroyo Parks and Recreation District, which would retain its overall historic and architectural significance. To protect the integrity of the National Register-listed Pasadena Parks and Recreation District, a qualified preservation consultant will review the final plans for conformance with Secretary of the Interior's Standards and prepare a memorandum commenting on the final proposed Project prior to issuance of a building permit. With required mitigation incorporated as a condition of the proposed Project, the new facilities located within the National Register-listed Pasadena Arroyo Parks and Recreation District would have no adverse impacts to historic properties (per Section 106) or historical resources (per CEQA) situated within the Area of Potential Effect ("APE")/Study Area.			been included in contract documents. 4. Verify that design components have been constructed according to specifications.			
Impact 3.5-2: Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.	**Mitigation Measure 3.5-2b: Comply with the Secretary of the Interior's Standards for Rehabilitation for the pipeline crossing of Arroyo Seco Flood Control Channel at Washington Boulevard.** The design and construction of the crossing of Arroyo Seco at Washington Boulevard will be undertaken in a manner that would limit damage to the concrete channel lining to the greatest extent feasible. Furthermore, reconstruction of the channel lining afterward will be conducted in accordance with the Secretary of the Interior's Standards for Rehabilitation. A qualified preservation consultant will review the final construction plans for conformance with Secretary of the Interior's Standards and prepare a memorandum commenting on the final Project prior to Lead Agency approval of project construction and issuance of a building permit. To protect the integrity of the historical resource, the final construction plans will detail how the section of the channel lining would be removed, what trenching method would be utilized, what protection measures would be implemented to avoid damage to the surrounding channel during construction, and how the channel lining would be repaired and replaced following installation of the pipeline. The preservation consultant will monitor the removal of the channel lining, and inspect the channel after substantial construction completion to ensure potential damage to the channel	PWP: • Phase I Project	PWP	1. Confirm that design of the channel lining complies with the Standards for Rehabilitation. 2. Confirm that final plans have been reviewed and confirmed by a qualified preservation consultant, prior to the issuance of a building permit. 3. Confirm that design components have been included in contract documents. 4. Verify that the preservation consultant monitors	1. Design 2. Design 3. Pre-construction 4. Construction 5. Post-construction	1._____ 2._____ 3._____ 4._____ 5._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	is minimized and the concrete lining repair and replacement meets the Secretary of the Interior's Standards for Rehabilitation. With required mitigation incorporated as a condition of the project, the pipeline crossing the National Register-eligible Arroyo Seco Floor Control Channel at Washington Boulevard would have no adverse impacts to historic properties (per Section 106) or historical resources (per CEQA) situated within the APE/Study Area.			the removal and replacement of channel lining. 5. Verify that design components have been constructed according to specifications.			
Impact 3.5-2: Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.	**Mitigation Measure 3.5-2c: Comply with the Secretary of the Interior's Standards for Rehabilitation for pipes installed over the entrance to the Colorado Street Bridge.** Adverse effects by Southern Extension I to the Colorado Street Bridge, listed on the National Register, will not be substantial since the pipeline will avoid physical alteration of the resource. The Pipe will be installed over the eastern on-ramp to the Colorado Street Bridge; the pipeline will be located in non-historic material (new asphalt, concrete, etc.) and the detailed project-level plans will be reviewed by a qualified preservation consultant prior to project approval to ensure that no physical alteration of the historic bridge will occur. Alteration of the historic bridge will be avoided, such as boring into the historic concrete of the bridge or attaching brackets or pipes to the bridge. Since the installation will be completed in accordance with the Secretary of the Interior's Standards, which provides guidance on appropriate materials and methods to protect the cultural integrity of historic resources, the project would not detract from the architectural integrity of Colorado Street Bridge listed in the National Register and the historic resource would retain its overall historic and architectural significance.	PWP: • Phase II Southern Extension I	PWP	1. Require that no physical alteration of the historic bridge occur. 2. Confirm that design of pipeline crossing complies with the Standards for Rehabilitation. 3. Confirm that a qualified preservation consultant has reviewed the final construction plans for conformance with the Standards for Rehabilitation prior to building permit issuance.	1. Design 2. Design 3. Design	1._____ 2._____ 3._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Impact 3.5-2: Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.	**Mitigation Measure 3.5-2d: Comply with the Secretary of the Interior's Standards for Rehabilitation for the attachment of pipes to the Seco Street Bridge.** Adverse effects by the Annandale Extension to the Seco Street Bridge, a character-defining feature of the National Register-eligible Arroyo Seco Flood Control Channel District, will be avoided. The pipeline will be attached along the outside edges of the deck amongst the other attached pipes or underneath the deck. There are other pipes attached to the south deck of the bridge and the new pipeline will be installed amongst the previous interventions, using the existing brackets. Attachment of new brackets to secure a new pipeline to the historic bridge will be avoided. Boring into the historic concrete of the bridge and/or channel will be avoided. If the pipeline is installed amongst the previous pipes, as described, the new pipeline will not be significantly visible from the public right-of-way. While the piping may be visible from the park, there are already other pipes attached to the bridge in this manner. If the installation is completed in accordance with the Secretary of the Interior's Standards, which provides guidance for appropriate materials and methods to protect the cultural integrity of historic resources during construction or restoration activities, the project would not detract from the architectural integrity of the Arroyo Seco Flood Control Channel District and the contributing Seco Street Bridge would retain its overall historic and architectural significance.	PWP: • Phase IV Annandale Extension	PWP	1. Require that pipeline is attached along the outside edges of the deck amongst the other attached pipes or underneath the deck. 2. Confirm that design of pipeline crossing complies with the Standards for Rehabilitation.	1. Design 2. Design	1._____ 2._____	
Impact 3.5-3: Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure 3.5-3a: Monitor and Report Construction Excavations for Paleontological Resources in Less Elevated Areas.** A qualified paleontologist will be retained to monitor excavation activities into the fossiliferous older Quaternary Alluvium deposits. The minimum qualifications of the paleontological monitor shall be a bachelor's degree in geology, paleontology, or closely related field and at least one year of paleontological fieldwork or laboratory experience in California. A minimum of two years of experience can substitute for a degree. The less elevated areas of the Study Area contain surficial deposits of older Quaternary alluvial fan deposits and therefore excavations into these deposits will be monitored. These areas include the portions of the Study Area that traverse through these Pasadena streets and areas: Rose Bowl Drive, N. Arroyo Blvd., Washington Blvd., Parkview Ave., Laurel St., Linda Vista Ave., segments of Afton St, and	PWP: • Phase I Project	PWP	1. Confirm measure included in contract documents. 2. Verify that a paleontologist has been retained to monitor excavation activities. 2. Verify that monitoring of construction excavation activities occurs as recommended by the	1. Pre-construction 2. Construction 3. Construction 4. Construction 5. Post-construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	Brookside Golf Course. These areas also include the grading for the proposed Sheldon Non-Potable Water Reservoir and the proposed pressure-reducing station, the Brookside booster pump station, the hydroelectric generation turbine, and the tunnel water pump station and wet well facilities. Monitoring will consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring will be based on the rate of excavation and grading activities, proximity to known paleontological resources or fossiliferous geologic formations (i.e., older Quaternary Alluvium), the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the paleontological monitor. If a potential fossil is found, the paleontological monitor will be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. At the paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor will assist in removing rock samples for initial processing. Any fossils encountered and recovered will be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected will be donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the San Bernardino County Museum. Accompanying notes, maps, and photographs will also be filed at the repository. Upon completion of the above activities, the paleontologist will prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report will be submitted to Pasadena Water and Power, the Natural History Museum of Los Angeles County, the San Bernardino County Museum, and representatives of other appropriate or			paleontological monitor. 3. Verify temporary cessation of grading and excavation in the vicinity of the fossil, if found. 4. Confirm fossils were recovered and donated to appropriate institution. 5. Confirm completion and filing of final paleontological monitoring report.		5._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.						
Impact 3.5-3: Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure 3.5-3b: Conduct Phase I Paleontological Assessment for Future Extensions.** PWP will conduct a Phase I Paleontological Resources Assessment of the Future Extensions to identify any paleontological resources within the area of a proposed Project component. The Phase I assessment will include paleontological resources records searches through the Natural History Museum of Los Angeles County (as needed), geologic map and geotechnical report review, and a pedestrian survey of the Study Area (Note: surveys may not be required in areas that do not have the native ground surface exposed such as paved streets or in areas where metamorphic or igneous sediments/rock units are mapped). If resources are identified during the Phase I assessment, then a Phase II assessment will be required, as described in **Mitigation Measure 3.5-3c**. If no resources are identified as part of the assessment, then paleontological construction monitoring may be warranted as described in **Mitigation Measure 3.5-3a**.	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP, in consultation with USBR	1. Confirm completion of Phase I assessment. 2. Confirm consultation with USBR for review and concurrence.	1. Design 2. Design	1._____ 2._____	
Impact 3.5-3: Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure 3.5-3c: Conduct Phase II Paleontological Resources Assessment for Future Extensions, if Warranted.** If resources are identified during the Phase I assessment, a Phase II Paleontological Resources Assessment may be warranted if improvements or new public access is proposed in the vicinity of such resource, or if an alternate alignment is not selected. The Phase II assessment will evaluate the significance of the resource. If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II assessment may not be necessary. The need for a Phase II assessment will be determined by PWP and USBR (as necessary for federal approvals). Methodologies for evaluating a resource can include, but are not limited to: subsurface paleontological excavations, additional background research, and coordination with interested individuals in the community.	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP, in consultation with USBR	1. Confirm completion of Phase II assessment, if needed. 2. Confirm consultation with USBR for review and concurrence.	1. Design 2. Design	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Impact 3.5-3: Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure 3.5-3d: Develop Mitigation to Reduce Potential Impacts from Future Extensions.** If, as a result of the Phase II assessment, resources are determined significant, potential impacts to the resources will be analyzed and if impacts are significant and cannot be avoided, mitigation measures will be developed and implemented to reduce impacts to the resources. If avoidance is not feasible, then Phase III Paleontological Resources Assessments will be implemented. Phase III assessments can include, but are not limited to: additional subsurface paleontological excavations (i.e., data recovery) and/or paleontological monitoring during ground-disturbing activities. Coordination and concurrence with PWP and USBR (as necessary for federal approvals) regarding treatment or mitigation will be required. The performance standard for this mitigation measure is to reduce potential impacts to paleontological resources to a less than significant level, which would be achieved through handling of potential paleontological resources in a manner deemed appropriate by a qualified paleontological monitor, and as described in **Mitigation Measure 3.5-3a**.	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP, in consultation with USBR	1. Confirm completion of Phase III assessment, if needed. 2. Confirm consultation with USBR for review and concurrence. 3. Confirm incorporation of treatment and mitigation measures into contract documents. 4. Monitor construction activities to verify that mitigation measures are implemented.	1. Design and Construction 2. Design and Construction 3. Pre-construction 4. Construction	1._____ 2._____ 3._____ 4._____	
Geology, Soils, and Seismicity							
Impact 3.6-1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. Impact 3.6-3: Project is located on a geologic unit or soil that is	**Mitigation Measure 3.6-1: Prepare Geological Report for Potentially Affected Facilities.** During the design phase for the Non-Potable Water Project Future Extensions, PWP will require preparation of a Geologic Report by a geologist registered in the State of California for facilities proposed for the proposed Project that have not been previously analyzed and could potentially be located within known seismic hazard zones shown on **Figure 3.6-1**. The Geologic Report will include an engineering analysis of liquefaction and slope stability for the distribution pipelines, pump stations, storage facilities, and pressure reducing station within the PWP service area. This assessment will include a liquefaction assessment study in accordance with the California Geological Survey Special Publication 117 Guidelines, and the Southern California Earthquake Center's procedures to implement Special Publication 117. If this report finds unstable soils would present potential risks associated with liquefaction or landslides, engineering recommendations for surface and subsurface drainage	PWP: • Phase II Southern Extension I • Phase III Southern Extension II • Phase V Northwestern Extension	PWP	1. Confirm preparation of a Geologic Report by a registered geologist. 2. Confirm that design plans and contract documents reflect Geologic Report recommendations.	1. Design 2. Design/Pre-construction	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	specifications and detailed design for fill placement and excavation will be provided and incorporated into design of the proposed Project.						
Hazards and Hazardous Materials							
Impact 3.8-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impact 3.8-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impact 3.9-1: Violate any water quality standards or waste discharge requirements.	**Mitigation Measure 3.8-2a: Hazardous Materials Management and Spill Prevention and Control Plan.** Before construction begins, PWP will require its construction contractor to prepare a Hazardous Materials Management Spill Prevention and Control Plan ("HazMat Spill Plan") that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan will be applicable to construction activities, and will establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration ("OSHA") regulations. Elements of the Plan will include, but not be limited to the following: • A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas; • Notification and documentation of procedures; and • Spill control and countermeasures, including employee spill prevention/response training.	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP	1. Confirm that a HazMat Spill Plan has been developed for construction. 2. Verify implementation of the HazMat Spill Plan.	1. Pre-Construction 2. Construction	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
Impact 3.8-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impact 3.8-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impact 3.8-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	**Mitigation Measure 3.8-2b: Contingency Plan for Contaminated Soil and/or Groundwater.** While there are no known areas of contaminated soil within the proposed Project boundaries, if contaminated soil and/or groundwater are encountered, work will be halted in the area and the type and extent of the contamination will be evaluated. A contingency plan to dispose of contaminated soil or groundwater would be developed through consultation with appropriate regulatory agencies. If dewatering or hydrostatic testing of a pipeline is to occur during project construction, the water would be discharged to the local drainage system, which would require prior approval from the LARWQCB.	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP	1. Confirm that contingency plan to dispose of contaminated soil and/or groundwater has been developed for construction. 2. Verify implementation of the contingency plan. 2. Confirm LARWQCB approval of discharge to the local drainage system, if needed.	1. Pre-construction 2. Construction 3. Pre-construction/ Construction	1._____ 2._____ 3._____	
Impact 3.8-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions	**Mitigation Measure 3.8-2c: Conduct Environmental Site Assessment in vicinity of Northwestern Extension and Southern Extension I.** Before beginning construction, PWP will complete a Phase I Environmental Site Assessment (“ESA”) for soil and groundwater contamination in areas where proposed non-potable water pipelines are located in the vicinity of Northwestern Extension and Southern Extension I. The recommendations set	PWP: • Phase II Southern Extension I	PWP	1. Confirm completion of Phase I ESA for soil and groundwater contamination. 2. If needed, confirm completion of Phase II ESA and sampling to	1. Design 2. Design 3. Pre-construction 4. Construction	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
involving the release of hazardous materials into the environment. Impact 3.8-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impact 3.8-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;	forth in the Phase I ESA will be implemented to the satisfaction of applicable agencies before construction begins. If the Phase I ESA indicates the potential for contamination within the construction zone of the pipelines, Phase II studies will be completed and recommendations implemented before construction begins. Phase II studies will include soil and groundwater sampling and analysis for anticipated contaminants. The Phase II sampling is intended to identify how to dispose of potentially harmful material from excavations, and to determine if construction workers need specialized personal protective equipment while constructing the pipeline through the area. The recommendations of the Phase II analysis will be implemented prior to or during construction to ensure health hazards are reduced to levels deemed acceptable by the applicable regulators.	• Phase V Northwestern Extension		determine protective measures for construction workers. 3. Confirm that recommendations of Phase II ESA are incorporated into contract documents. 4. Verify that recommendations of Phase II ESA are implemented.		3._____ 4._____	
Impact 3.8-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impact 3.16-5: Result in inadequate emergency access.	**Mitigation Measure 3.8-5: Develop and Maintain Emergency Access Strategies.** In conjunction with Mitigation Measure 3.16-1 (refer to Section 3.16 Traffic and Transportation), comprehensive strategies for maintaining emergency access will be developed. Strategies will include, but are not limited to, maintaining steel trench plates at the construction sites to restore access across open trenches and identification of alternate routing around construction zones. Also, police, fire, and other emergency service providers will be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures.	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension	PWP	1. Confirm that contract documents require emergency access strategies. 2. Confirm development of emergency access strategies. 3. Confirm notification to police, fire, and other emergency service providers of timing, location, and	1. Pre-construction 2. Pre-construction 3. Pre-construction 4. Construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
		• Phase V Northwestern Extension • Phase VI Northeastern Extension		duration of construction activities and locations of detours. 4. Verify that emergency access strategies were implemented.			
Impact 3.8-6: Potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	**Mitigation Measure 3.8-6: Prevention of Fire Hazards.** During construction of the proposed Project in Fire Hazard Severity Zones, PWP will require staging areas, welding areas, or areas slated for construction to be cleared of dried vegetation or other material that could ignite. Construction equipment that includes a spark arrestor will be equipped in good working order. In addition, construction crews will have a spotter during welding activities to look out for potentially dangerous situations, such as accidental sparks. Other construction equipment, including those with hot vehicle catalytic converters, will be kept in good working order and used only within cleared construction zones. PWP will require the creation and maintenance of approved fire access to work areas, in accordance with local Fire regulations. During construction of the proposed Project, contractors will require vehicles and crews working at the project site to have access to functional fire extinguishers.	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP	1. Confirm that contract documents require fire prevention strategies. 2. Confirm development of fire prevention strategies. 3. Verify that fire prevention strategies were implemented.	1. Pre-construction 2. Pre-construction 3. Construction	1._____ 2._____ 3._____	
Noise							
Impact 3.12-1: Potential for a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, in excess of standards established in local	**Mitigation Measure 3.12-1a: Noise Control Measures to Reduce Construction Noise.** In order to comply with the affected jurisdiction's Municipal Codes, the following measures will be implemented: • Limit Construction Hours: Construction hour would be limited to times authorized under the cities' and the County's Municipal Code. For the City of Pasadena, construction is allowed 7:00 a.m. to 7:00 p.m. Monday – Friday; 8:00 a.m. to 5:00 p.m. on Saturday, and prohibited on Sundays and holidays. For the City	PWP: • Phase I Project • Phase II Southern Extension I	PWP	1. Confirm contract documents require noise reduction measures. 2. Confirm development of noise reduction measures. 3. Verify that vibration monitoring occurs and	1. Pre-construction 2. Pre-construction 3. Construction 4. Construction	1._____ 2._____ 3._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
general plan or noise ordinances or applicable standards of other agencies. Impact 3.12-3: Potential to expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels.	of Glendale, construction within residential areas or 500 feet of residential areas is allowed only from 7:00 a.m. to 7:00 p.m. Monday – Saturday and prohibited on Sundays and holidays. For the City of La Cañada Flintridge, construction is allowed from 7 a.m. to 6 p.m. Monday – Friday during standard time and 7 a.m. to 7 p.m. during daylight savings time (except holidays), and Saturday from 9 a.m. to 5 p.m., and prohibited on Sundays and holidays. For Los Angeles County, construction is allowed from 7 a.m. to 7 p.m. from Monday – Saturday and prohibited on Sundays and holidays. • Locate Staging Areas away from Sensitive Receptors: The contractor will select construction staging areas as far as feasibly possible from sensitive receptors. Prior to construction, the construction contractor will identify and receive approval of the construction staging areas from the City of Pasadena Public Works Department. Where applicable, the construction contractor will also identify and receive approval of the construction staging areas from other jurisdictions in the Study Area: City of Glendale, City of La Cañada Flintridge, and County of Los Angeles (Altadena). • Install and Maintain Mufflers on Construction Equipment in Excess of 85 dBA: Within the City of Pasadena, construction equipment that generates noise in excess of 85 dBA at 100 feet will be fitted with mufflers to reduce noise to less than 85 dBA when measured 100 feet from the equipment. PWP will require the contractor to maintain construction equipment with specified noise-muffling devices to achieve stated performance measures. Noise testing is required to demonstrate the equipment has been installed and is properly reducing noise levels. • Idling Prohibition and Enforcement: PWP will prohibit unnecessary idling of internal combustion engines. In practice, this would mean turning off equipment if it would not be used for five or more minutes. • Equipment Location and Shielding: PWP will require its contractors to locate stationary noise-generating construction equipment such as air compressors and generators as far as	• Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension		results reported to City of Pasadena. 4. Confirm noise reduction measures were implemented during construction.		4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	possible from homes and businesses within the City of Pasadena. At the pressure reducing station at the Sheldon Non-potable Reservoir site, the contractor will install a temporary sound barrier along the north and east fence property lines during construction to mitigate elevated noise levels. The final selection of noise barriers will be reviewed and approved by PWP and the Planning Department. • Install Measures to Reduce Vibration: The contractor will conduct vibration monitoring at any residences or buildings located less than 50-feet from construction activities. Ground vibration level at the nearest residential structure to the construction site will be monitored using vibration sensor(s) or velocity transducer with adequate sensitivity capable of measuring peak particle velocity level in the frequency range of 1 Hz to 100 Hz. If the vibration level due to construction activities exceeds the project's criteria of 0.2 inch/second, the contractor will make modifications/revisions to construction methods for approval by the City of Pasadena or other applicable jurisdiction. Measures may include features such as use of roller compactor in lieu of vibratory compactors to ensure that the PPV remains at less than the 0.2 inch/second threshold.						
Impact 3.12-1: Potential for a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, in excess of standards established in local general plan or noise ordinances or applicable standards of other agencies. Impact 3.12-3: Potential to expose	**Mitigation Measure 3.12-1b: Pre-Construction Notification.** Prior to construction, written notifications to residents within 500 feet of the proposed Project will be sent, identifying the type, duration, and frequency of construction activities. Notifications will also identify a mechanism for residents to complain to PWP for construction related noise.	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension	PWP	1. Confirm contract documents include pre-construction notification measures. 2. Verify that notification materials were distributed to appropriate residents. 3. Document any construction-related noise complaints received through the designated mechanism.	1. Pre-construction 2. Pre-construction 3. Construction	1._____ 2._____ 3._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
persons to or generation of excessive ground-borne vibration or ground-borne noise levels.		• Phase VI Northeastern Extension					
Impact 3.12-2: Potential for a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, in excess of standards established in local general plan or noise ordinances or applicable standards of other agencies.	**Mitigation Measure 3.12-2: Implement Noise Minimization Measures during Operation.** Design and construction of the proposed pumps and pressure reducing stations located within the City will comply to ensure operational noise levels at the property line do not exceed the City of Pasadena's Noise Ordinance standards. PWP will implement the following noise minimization measures to the extent they are needed to reduce noise to a level that complies with the City of Pasadena's Noise Ordinance standards. • Shielding and other specified measures as deemed appropriate and effective by the design engineer would be incorporated into the design to comply with performance standards minimize noise. • Project equipment will be outfitted and maintained with noise-reduction devices such as equipment closures, fan silencers, mufflers, acoustical louvers, noise barriers, and acoustical panels to minimize operational noise. • The orientation of acoustical exits, where necessary, will always be facing away from nearby sensitive receptors. • Dense landscaping will be incorporated, where appropriate, to absorb and/or redirect noise away from nearby sensitive receptors. • Noise testing will be conducted to demonstrate noise minimization measures have been properly installed, and that the noise levels have been reduced to levels specified are in compliance within the City of Pasadena Noise Ordinance. If the testing indicates noncompliance with the Noise Ordinance, additional measures (e.g., installation of sound proofing material inside the wall; installation of sound dampening material around the valves, etc.) will be taken	PWP: • Phase I Project • Phase V Northwestern Extension	PWP	1. Confirm design plans include noise and vibration minimization measures. 2. Verify that noise monitoring is conducted and reported. 4. Verify additional noise and vibration minimization measures are implemented if monitoring finds noncompliance with applicable noise ordinances.	1. Design 2. Construction 3. Construction	1._____ 2._____ 3._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	until compliance with the 5 dB limitation in the Noise Ordinance can be demonstrated.						
Recreation							
Impact 3.15-1: Conflict with established recreational uses of the area	**Mitigation Measure 3.15-1: Coordination with Recreational Facilities.** PWP will coordinate with the affected recreational facilities owners/operators prior to construction of the proposed facilities to determine the timing and details of construction. To the extent possible, PWP will minimize the duration of recreational facility disruptions/closures and provide detours where it is safe to do so. PWP will install signage informing the public of construction activities and estimated duration of work activities. PWP will restore all affected recreational facilities to pre-construction conditions to reestablish pre-construction uses and ensure no long-term impacts to recreational facilities would occur.	PWP: • Phase I Project • Phase V Northwestern Extension	PWP	1. Confirm coordination with the affected recreational facilities owners/operators. 2. Confirm installation of signage to inform the public of construction activities. 3. Verify that all affected recreational facilities are restored to pre-construction conditions.	1. Pre-construction 2. Pre-construction 3. Post-construction	1._____ 2._____ 3._____	
Transportation and Traffic							
Impact 3.16-1: Generate substantial increase in traffic, which is substantial in relation to the existing traffic and load capacity of the street system, substantially impact existing transportation systems, or alter present patterns of circulation or movement of people and goods. Impact 3.16-2: Conflict with an applicable congestion management program, plan, ordinance, or	**Mitigation Measure 3.16-1: Prepare and Implement a Construction Staging and Traffic Management Plan in Coordination with Responsible Agencies.** Prior to construction, PWP's contractor will submit a Construction Staging and Traffic Management Plan ("CSTMP") to the City of Pasadena's Department of Public Works for review and approval. The contractor will also work with the neighboring jurisdictions within the Study Area that are responsible agencies (City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena) to ensure that the jurisdictions concur with the Construction Staging and Traffic Management Plan. The Construction Staging and Traffic Management Plan will show the impact of various construction stages on the public right-of-way, including work in public right-of-way such as lane closures, detours, staging areas, entry and exit points for staging areas, routes of construction vehicles entering and exiting the construction site(s), as well as parking for construction vehicles, equipment, and workers. The plan will also describe traffic control measures that would be implemented to manage traffic and reduce potential traffic	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension	PWP, in collaboration with affected jurisdictions	1. Confirm contract documents require development and implementation of a CSTMP. 2. Confirm CSTMP was developed in coordination with relevant emergency services providers, and affected recreational facilities. 3. Confirm submittal of CSTMP to affected jurisdictions, in compliance with permit requirements.	1. Pre-construction 2. Pre-construction 3. Pre-construction 4. Construction	1._____ 2._____ 3._____ 4._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
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. Impact 3.16-3: Increase hazards (to motorists, bicyclists, or pedestrians) due to a design feature (e.g., sharp curves or dangerous intersection), other features, or incompatible uses. Impact 3.16-5: Result in inadequate emergency access.	impacts in accordance with stipulations of the Manual of Uniform Traffic Control Devices ("MUTCD"). Traffic control measures may include, but are not limited to: flag persons, warning signs, lights, barricades and cones to provide safe passage of vehicular (including public transportation vehicles such as buses), bicycle (children and adults), and pedestrian traffic (both adults and children), and access by emergency responders. In addition, the plan will demonstrate the location of bus stops and bus and bicycle routes that would be temporarily impacted by construction activities and will recommend places to temporarily relocate bus stops and bus and bicycle routes. The Plan will also identify anticipated timing and duration of lane and/or street closures, the number of lanes to be closed along each street, proposed detours and the anticipated number of vehicles that will use each detour. It will also include a plan to manage traffic during Rose Bowl events. The Construction Staging and Traffic Management Plan will include project contact information to be circulated with appropriate neighborhood notices of construction and provided to appropriate neighborhood associations. The project contact(s) will be available for calls during construction hours, and an emergency contact available at all times during the proposed Project. Project contact(s) will be the point of contact for stakeholders over any non-emergency situation that may arise related to construction of the proposed Project to ensure enforcement of the Construction Staging and Traffic Management Plan. Construction traffic will be limited to streets and roadways designated in the Construction Staging and Traffic Management Plan, and notifications will be provided to neighbors and neighborhood associations for potential upcoming lane and road closures prior to such closures. To the extent practicable, safe, quiet, and "clean" trucks and equipment will be used during project construction, and dust and clean-up measures will be implemented including, but not limited to, power street sweeping and hand brooming along vehicular access drives to the work site(s) and adjacent parking areas. Other site cleaning activities will be required as necessary, and trucks transporting earthwork, debris, or other dust-generating materials will cover their loads with tarps. A Utility Excavation permit will be obtained from the City of Pasadena's Department of Public Works for use of other public	• Phase VI Northeastern Extension		4. Confirm that all traffic control measures were implemented during construction.			

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	right-of-ways. Lane closures will be done in accordance with the latest edition of the MUTCD. If the public right-of-way occupation requires a diagram that is not included based on the MUTCD, a separate traffic control plan must be submitted as part of the CSTMP to the City of Pasadena's Department of Public Works for approval and will also be submitted to the City of Glendale, City of La Cañada Flintridge, City of San Marino, and the community of Altadena) to ensure that all jurisdictions concur with the plan.						
Utilities							
Impact 3.17-3: Result in disruption of utilities.	**Mitigation Measure 3.17-3a: Coordinate relocation and interruptions of service with utility providers during construction.** The construction contractor will contact Underground Service Alert (800/642-2444) at least 48 hours before excavation begins to verify the nature and location of underground utilities. The contractor will notify and coordinate with public and private utility providers at least 48 hours before the start of work adjacent to any utility, unless the excavation permit specifies otherwise. The service provider will be notified in advance of service interruptions and will be given sufficient time to notify customers. The timing of interruptions will be coordinated with the service providers to minimize the frequency and duration of interruptions.	PWP: • Phase I Project • Phase II Southern Extension I • Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension	PWP	1. Confirm contract documents require Underground Service Alert. 2. Verify that utility providers were notified and coordinated.	1. Pre-construction 2. Pre-construction	1._____ 2._____	
Impact 3.17-3: Result in disruption of utilities.	**Mitigation Measure 3.17-3b: Protect existing utilities.** The construction contractor will be responsible for protecting utility facilities. Exposed pipelines will be temporarily supported during construction, concrete cradles between existing and proposed pipelines will be installed when a minimum vertical clearance is not available, and a minimum separation distance of five feet from all existing utility lines will be maintained to the extent possible. Existing utility mapping obtained from the service providers will be utilized during final design in addition to potholing (temporarily exposing buried utilities to determine horizontal and/or vertical	PWP: • Phase I Project • Phase II Southern Extension I	PWP	1. Confirm contract documents require protection of existing utilities. 2. Verify that measures to protect existing utilities were implemented.	1. Pre-construction 2. Construction	1._____ 2._____	

Impact Statement	Mitigation Measure	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule	Verification: Status/ Date Completed/ Initials	Effectiveness
	location) during design and construction. Service providers and Underground Service Alert will also be contacted to mark lines prior to excavation.	• Phase III Southern Extension II • Phase IV Annandale Extension • Phase V Northwestern Extension • Phase VI Northeastern Extension					
Impact 5.3-2: Project has impacts that would be individually limited, but cumulatively considerable	**Mitigation Measure CUM-1:** The City and/or its Contractor shall coordinate with Los Angeles Flood Control District (LAFCD) and Los Angeles County Department of Public Works (LACDPW) and their contractor for the sediment removal and reservoir management activities to ensure that roadway impacts are minimized during proposed Project construction, either through the use of different haul routes or through timing of construction such that it does not occur during the reservoir management phase.	PWP: • Phase I Project • Phase V Northwestern Extension	PWP	1. Confirm that LAFCD and LACDPW have been contacted to coordinate haul routes and timing to minimize roadway disturbance. 2. Verify that agreed upon haul routes and timing were implemented.	1. Pre-construction 2. Construction	1._____ 2._____	

Attachment 2

Environmental Impact Report ("EIR")
for
the Pasadena Non-Potable Water Project (SCH #2014081091)

The EIR is available for public review on the City's website at:

http://www.PWPweb.com/recycledwater/

http://cityofpasadena.net/Planning/Environmental_Notices/

The EIR is available for public review in print at the following locations:

Pasadena Water and Power
150 S. Los Robles Avenue, Suite 200
Pasadena, CA 91101

Pasadena Central Library
285 East Walnut Street
Pasadena, CA 91101

Pasadena City Hall
City Clerk's Office
100 N. Garfield Ave, Room S228
Pasadena, CA 91101

Linda Vista Library
1281 Bryant Street
Pasadena, CA 91103

La Pintoresca Library
1355 North Raymond Avenue
Pasadena, CA 91103

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASADENA APPROVING THE APPLICATION FOR GRANT FUNDS FROM THE FEDERAL GOVERNMENT, STATE OF CALIFORNIA, AND OTHER GOVERNMENTAL AGENCIES FOR THE PASADENA NON-POTABLE WATER PROJECT

WHEREAS, the City of Pasadena, through its Water & Power Department ("City"), desires to undertake the construction of certain public facilities and improvements relating to the Pasadena Non-Potable Water Project, including certain facilities, new pipelines and other infrastructure; and

WHEREAS, funding for construction is and may become available through various grants or other funds controlled and awarded by the federal government (including the U.S. Bureau of Reclamation), the State of California (including through the State Water Resources Control Board), and other governmental agencies (including through the Metropolitan Water District); and

WHEREAS, the funding entities will set forth any necessary procedures governing application for such funding, and the funding entities generally or may require the City of Pasadena to certify, by resolution, the designation of authority to a named employee before submission of application(s) for such funding.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF PASADENA RESOLVES AS FOLLOWS:

The General Manager of Pasadena Water and Power or designee is hereby authorized and directed to sign and file, for and on behalf of the City of Pasadena, any applications for grant funds from the federal government, State of California, or other governmental agencies for the Pasadena Non-Potable Water Project, as deemed necessary in the General Manager's discretion.

Adopted at the _____ meeting of the City Council of the City of Pasadena held on the _____day of _____, 2016, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Mark Jomsky, CMC
City Clerk

APPROVED AS TO FORM:

_____
Theresa E. Fuentes
Assistant City Attorney

0000135750C031

Mandatory Non-Potable Water Use Ordinance - Provisions

The following provisions describe in general terms the requirements that will be included in the Mandatory Non-Potable Water Use Ordinance ("Ordinance").

- The term "**Non-Potable Water**" as used herein shall include any source of non-potable water including recycled, raw, or untreated water conveyed by the Pasadena Water and Power Department through its non-potable distribution system.
- **Policy**: Non-Potable Water shall be used whenever its use is economically justified, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.
- **Mandatory Use**: The following land uses shall be required to use Non-Potable Water: agricultural irrigation; construction use; all landscape, park, schoolyard and golf course irrigation; landscape and/or aesthetic impoundments, and wildlife habitat. Exceptions may be granted by the City on the basis of specific health concerns or pursuant to an appeals process set forth in the Ordinance.
- **Non-mandatory Use**: At the City's discretion, the following types of uses may require Non-Potable Water: commercial use, (including air-conditioning and toilet flushing), and industrial process.
- **Permitting**: Regardless of type of condition of use, all prospective users of Non-Potable Water shall obtain a permit from the City prior to receiving the Non-Potable Water.
- **New Construction**: All requests for water service for new construction projects submitted to the City shall be evaluated for potential Non-Potable Water use. All projects located over groundwater basins suited for Non-Potable Water use and within one (1) mile of existing or proposed Non-Potable Water facilities shall be considered for mandatory Non-Potable Water use. The City reserves the right to require customers to use Non-Potable Water in lieu of potable water for all approved uses.
- **Existing Customers**: Existing water customers who have water service connections serving existing developed property with annual landscape water use of 200,000 cubic feet per year (2,000 billing units) or more of potable water and within 1,000 feet of a Non-Potable Water pipeline will be required to retrofit said property to accommodate and use Non-Potable Water for landscape irrigation.
- **Temporary Potable Water Use for New Construction**: At the discretion of the City, potable water may be made available on a temporary basis until Non-Potable Water is made available.
- **Cost of Conversion and Interconnection**: The cost of facilities required to accommodate Non-Potable Water and interconnect to the City's Non-Potable Water pipeline shall be borne by the customer or potential user(s) of the Non-Potable Water.

Attachment 5

Pasadena Non-Potable Water Project
Figure 2-3
Phase I Project

Potential Demand
- > 0 afy
- > 10 afy
- > 25 afy
- > 50 afy
- > 100 afy

Proposed Facilities
- Storage Reservoir
- Pressure Reducing Statio
- Pump Station
- Hydroelectric Turbine Fac
- Phase 1
- Tunnel Water Facilities

Other Features
- Existing Tunnel Water Pipir
- Existing Glendale RW Pi
- Railroads
- City Boundaries
- Schools
- Parks/Golf Courses
- PWP Service Area
- PAS — PWP Customers

Notes:
GWP - Glendale Water and Power
PWP - Pasadena Water and Power
RW - Recycled Water
PRS - Pressure Reducing Station

N

0 400 800 1,600
Feet

RMC water and environment

14,000 Gal Wet Well
Pump Station (350 gpm)
12" Richardson Intake
PRS 1434/1050 Sheldon Non-Potable Reservoir Site Location (Northwestern Extension)
Sheldon Non-Potable Rservoir(s) 1.25 MG 1050' HWL
12" TW Transmission Pipeline
PRS 1666/1050 & Brookside Booster Pump Station (Phase I)
Hydroelectric Turbine Facility (Phase I)
Brookside Golf Course
Art Center College of Design
RW pipeline and parallel electrical/fiber optic conduit
Scholl Canyon Non-Potable Water Reservoir
Connection to GWP System
Rose Bowl Stadium
Brookside Park
20"
24"
GLENDALE
ARROYO SECO

Attachment 6

Proposed Sheldon Non-Potable Tank

Existing Sheldon Potable Water Reservoir

N

Rosemont Ave

La Cresta Dr

N Arroyo Blvd

Kenneth Way

Foothill Fwy

Casitas Ave

Coniston Rd

Stanton St

Donny's Celebrity Stories

M D Hardwood Floors

Attachment 7

Water Reclamation Task Force

Proposal for a Recycled Water Plan in Pasadena
May 2008

To the Honorable Mayor Bogaard:

Pasadena has within its reach an untapped source of water that promises to increase our available supply, help protect our city from the effects of a looming drought, buffer us from water-industry politics, ensure adequate fire protection, continue our city's legacy of environmental stewardship and preserve Pasadena's healthy landscapes for generations to come.

We unanimously request that the Pasadena City Council authorize the first-phase construction of a system to deliver recycled water currently available for landscape irrigation and industrial uses.

Who We Are
We are a group of citizens concerned about the future of our city and the instability of the water supply throughout the western states. At the invitation of Pasadena Water & Power, we have devoted several months to evaluating facts, reviewing data, interviewing water-industry experts and assessing Pasadena's future if no action is taken. While we may have come to the table with different ideas, our conclusion is singular.

Our Call for Action
It is time for Pasadena to capitalize on the $6.3 million commitment it made in 1993, when the City Council authorized the purchase of 6,000 acre-feet of recycled water per year from the Los Angeles/Glendale Water Reclamation Plant. The Council had foreseen the droughts and population growth that we experience today.

Our city now faces a projected water shortage. It is time to put a plan into action to use the water we've been paying for since 1993. We see the need to take the first step to develop a system that will provide reclaimed water for irrigation of public landscapes and for industrial use. Because it may take up to two years for multiple regulatory agencies to approve even the first phase of construction, we must begin now.

A Dwindling Supply
Pasadena consumes 39,000 acre-feet of water per year, of which 60 percent is imported from the Metropolitan Water District (MWD). The water supplied by MWD is increasingly vulnerable. A five-year drought throughout the western states has left MWD's historic sources at very low levels. Pumping has also been restricted from the Sacramento-San Joaquin River Delta. These facts, coupled with increasing demand within MWD's service area and statewide vying for

available supply, make Pasadena's future water allocation uncertain. As a result, the Pasadena City Council declared a projected water shortage in December 2007 and directed all Pasadenans to reduce consumption by at least 10 percent. Implementing a new recycled water project can help us reach this goal.

A Feasible Plan

The recycled water plan proposed herein takes advantage of existing equipment and calls for phased implementation citywide. Phase I includes a reservoir at Scholl Canyon and piping to meet 100 percent of the irrigation needs at Brookside Park, Brookside Golf Course and the Rose Bowl. Not only are these recreational facilities closest to Scholl Canyon, the golf course is already equipped with purple pipe designated for recycled water systems. This first phase of Pasadena's recycled water distribution system would enable the City to conserve up to 1,000 acre-feet (AF) of drinking water per year, enough to serve 2,000 Pasadena homes.

The system would be expanded in two more phases to irrigate City parks, school fields, freeway landscaping and other public grounds, with additional potential for industrial uses. With a fully implemented system in place, the 6,000 AF of recycled water to which Pasadena is already entitled could meet 15 percent of the city's current demand.

A Safe, Proven Solution

The proposed project is not a pioneering endeavor. Recycled water is a proven resource that has been employed by cities throughout Los Angeles and Orange counties for decades. The recycled water available to Pasadena is treated with a state-of-the-art tertiary method. When used for irrigation and industrial purposes, recycled water meets every appropriate standard for safety and purity.

Pasadena Is Maximizing Other Options

Faced with a projected shortage and the prospect of mandatory water-use restrictions, Pasadena Water & Power continues to aggressively promote citywide conservation and water efficient methods and technologies, but these strategies alone cannot solve the problem. Other supply alternatives, including desalination of sea water, are financially and physically unfeasible at this time. Recycled water is, however, a viable solution to a great portion of our supply and demand challenges.

An Investment in a Green Future

A recycled water system is a necessary investment in Pasadena's future and, moreover, would be a clear testament to the City's commitment to sustainability and environmental protection. The Pasadena City Council made the bold move to approve two far-reaching master plans to rehabilitate the city's aging water and power delivery systems. A recycled water system would enhance these efforts to guarantee safe, reliable service for future generations.

At the same time, the City's comprehensive Green City Action Plan calls for the reduction of potable water use by 10 percent by the year 2015. Using recycled water would help the City meet this goal and set an important example of responsibility, progress and action.

We appreciate your consideration and urge you to invest in this project which will help ensure a reliable water supply to our citizens for years to come.

Respectfully submitted by:

The Pasadena Water Reclamation Task Force

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Don McIntyre

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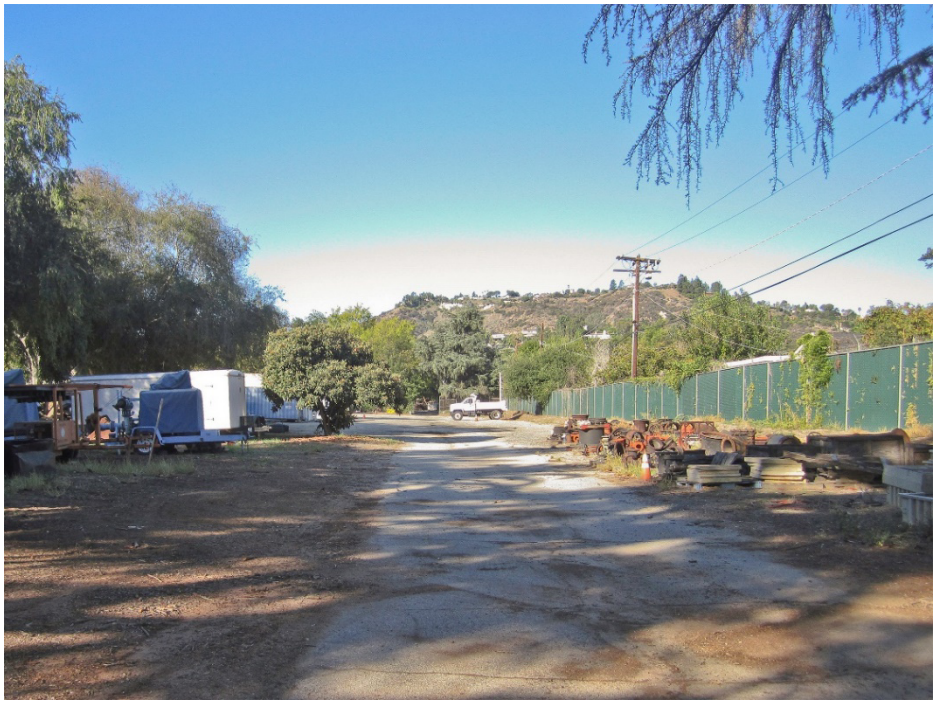
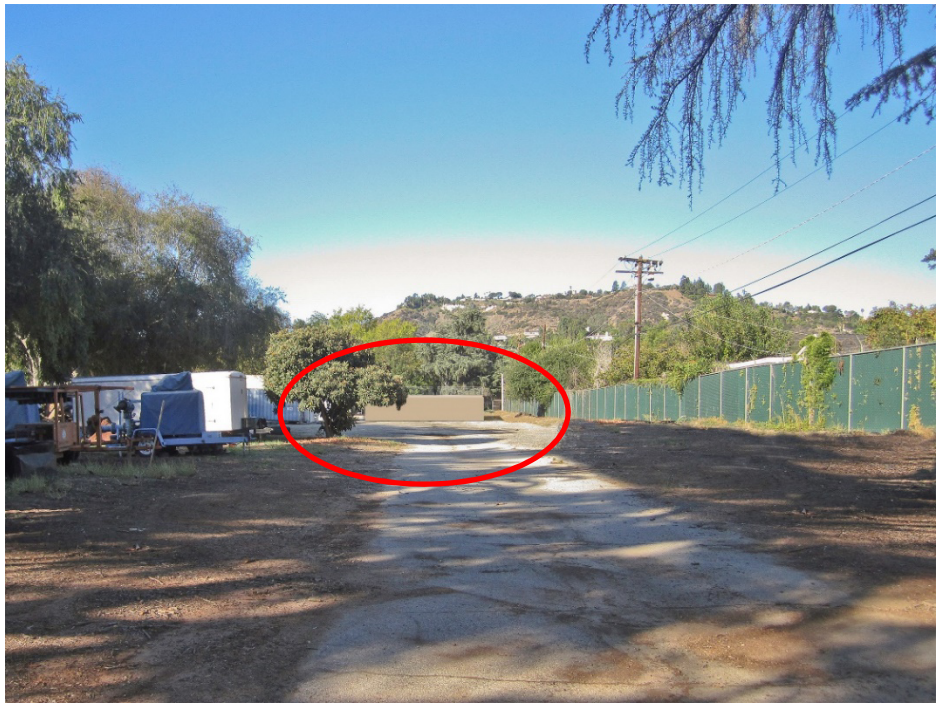
Attachment 8

Sheldon Non-Potable Water Reservoir

Before Construction



After Construction



Visual Rendering