



Arroyo Seco Canyon Project Areas 2 and 3 Draft Environmental Impact Report

**Modification to Conditional Use Permit No. 6222
State Clearinghouse No. 2014101022**

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADT	average daily traffic
AGR	Agricultural Supply
ANF	Angeles National Forest
APE	Area of Potential Effect
APN	Assessor Parcel Numbers
AQMP	Air Quality Management Plan
ARR	Archaeological Reconnaissance Report
ASCP	Arroyo Seco Canyon Project
BMP	best management practices
BRTR	Biological Resources Technical Report
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resources Board
CCC	Civilian Conservation Corps
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH ₄	methane
CHRID	California Historical Resources Inventory Database
CHRIS	California Historic Resources Information System
CIP	Capital Improvement Program
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Exposure
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂	carbon dioxide
COLD	Cold Freshwater Habitat
CRHR	California Register of Historic Resources
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWC	California Water Code

Acronym/Abbreviation	Definition
DEIR	Draft Environmental Impact Report
DOT	U.S. Department of Transportation Federal Transit Administration
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESM	engineered streambed material
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan
GWP	global warming potential
GWR	Ground Water Recharge
HA	Hydrologic Area
HAER	Historic American Engineering Record
HAP	hazardous air pollutant
HCFC	hydrochlorofluorocarbon
HEC-RAS	Hydrologic Engineering Center River Analysis System
HFC	hydrofluorocarbon
HRA	health risk assessment
HSA	Hydrologic Sub-Area
HU	Hydrologic Unit
HUC	hydrologic unit code
HWP	Hahamongna Watershed Park
IND	Industrial Service Supply
IS/MND	Initial Study/Mitigated Negative Declaration
ITE	Institute of Transportation Engineers
JPL	Jet Propulsion Laboratory
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACM	Natural History Museum of Los Angeles County
LARWQCB	Los Angeles Regional Water Quality Control Board
LCFS	Low Carbon Fuel Standard
LID	low impact development

Acronym/Abbreviation	Definition
LMP	Land Management Plan
LOS	Level of Service
LST	localized significance threshold
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MCY	million cubic yards
MHTS	Monk Hill Treatment System
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MS4	Municipal Separate Storm Sewer Systems
MT	metric tons
MUN	Municipal and Domestic Supply
MWD	Metropolitan Water District of Southern California
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NF ₃	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO ₂	nitrogen dioxide
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Parks Service
NRHP	National Register of Historic Place
NWP	Nationwide Permit
O ₃	ozone
OGAI	Oak Grove Area Improvements
OHWM	ordinary high-water mark
OPR	Office of Planning and Research
OS	Open Space
PCE	Passenger Car Equivalency
PFC	perfluorocarbon
PM ₁₀	particulate matter less than or equal to 10 microns in diameter
PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
PRC	Public Resources Code

Acronym/Abbreviation	Definition
PRD	Permit Registration Document
PRIMP	Paleontological Resources Impact Mitigation Program
PROC	Industrial Process Supply
PWP	City of Pasadena Department of Water and Power
RBMB	Raymond Basin Management Board
RCNM	Roadway Construction Noise Model
REC-1	Contact Water Recreation
REC-2	Non-contact Water Recreation
RI	Remedial Investigation
RSA	Regional Statistical Area
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAM	Sediment Analysis Methods
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCCWRP	Southern California Coastal Water Research Project
SCE	Southern California Edison
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act of 2014
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
SMMNRA	Santa Monica Mountains National Recreation Area
SO ₂	sulfur dioxide
SRA	Source receptor area
SSC	Species of Special Concern
ST	short-term noise measurement location
SVP	Society of Vertebrate Paleontology
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDL	total maximum daily load
TPZ	tree protection zone
USACE	U.S. Army Corps of Engineers

Acronym/Abbreviation	Definition
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plans
VOC	volatile organic compound
VT	vehicle trips
WARM	Warm Freshwater Habitat
WDR	Waste Discharge Requirement
WET	Wetland Habitat
WILD	Wildlife Habitat
WIRP	Water Integrated Resources Plan
WSE	water surface elevation
WSRP	Water System and Resources Plan
WTP	Water Treatment Plant

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ES EXECUTIVE SUMMARY

In accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15123, this section provides a summary of the Environmental Impact Report (EIR) for the proposed Arroyo Seco Canyon Project Areas 2 and 3 (Project or proposed Project) and its environmental effects. Included in this summary are areas of known controversy and issues to be resolved, a summary of Project alternatives, a summary of all Project impacts and associated mitigation measures, and a statement of the ultimate level of significance after mitigation is applied.

ES.1 Document Purpose

This Draft EIR was prepared by the City of Pasadena (City), as lead agency, to inform decision makers and the public of the potential significant environmental effects associated with the Project. This Draft EIR has been prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines; 14 CCR 15000 et seq.) published by the Public Resources Agency of the State of California.

As described in Section 15121 (a) and 15362 of the State CEQA Guidelines,¹ an EIR is an informational document which will inform public agency decision-makers and the public of the potentially significant environmental effects of a project, identify possible ways to mitigate any significant environmental effects, and identify and evaluate a reasonable range of alternatives to the Project that have the potential to reduce or avoid the project's potential significant environmental effects, while feasibly accomplishing most of the Project' basic objectives.

ES.2 Project Location

The Project site is located in the City of Pasadena within and at the base of the Arroyo Seco Canyon at 3420 and 3500 North Arroyo Boulevard², City of Pasadena. The proposed Project consists of two primary areas, as shown on Figure 2-1, Local Vicinity and Regional Location, including Area 2, Diversion and Intake Replacement and Area 3, Spreading Basin Improvements. These areas are connected by the North Arroyo Boulevard (i.e. Gabrielino Trail/Access Road), which serves as a recreational trail and the access road for City of Pasadena and U.S. Forest Service (USFS) vehicles heading into the Arroyo Seco Canyon. The Arroyo Seco is a natural drainage that conveys flows from the Angeles National Forest (ANF) and other adjacent lands into the downstream Devil's Gate Dam and Reservoir.

Regional access to the Project site is via Interstate (I) 210, exiting Windsor Avenue and traveling northward for approximately 0.8-mile to the intersection of Windsor Avenue and Ventura Street. From this intersection, the Project site can be accessed via either Explorer Road, which is a publicly accessible roadway that leads to the City's open area (i.e., former Jet Propulsion Laboratory [JPL] East Parking Lot), or via a locked/gated entrance to North Arroyo Boulevard (i.e. Gabrielino Trail/Access Road), which is only accessible to the public for non-motorized use, and occasional vehicle use by the City.

¹ California Code of Regulations Title 14, Chapter 3, Sections 15000-15387.

² Also known as "Arroyo Seco Road".

ES.3 Background

Settlement Agreement

On October 9, 2014, the City circulated the Arroyo Seco Canyon Project (ASCP) Initial Study/Mitigated Negative Declaration (IS/MND), State Clearinghouse (SCH) Number 2014101022, for a 30-day public review period from October 9, 2014, to November 8, 2014. The City was seeking approval of a Conditional Use Permit (CUP) No. 6222 for the ASCP, which involved improvements to three areas: Area 1, Arroyo Seco Headworks; Area 2, Arroyo Seco Intake; and Area 3, Jet Propulsion Laboratory (JPL) East Parking Lot.

The ASCP and associated IS/MND were approved at a public hearing held by the City's Hearing Officer on January 7, 2015. The approval was upheld by the Board of Zoning Appeals on March 4, 2015, and again at City Council on June 1, 2015 by unanimous vote. On July 2, 2015, a lawsuit (Court Case No. BS156207) was filed against the City by petitioners Spirit of the Sage Council and Project Soliton challenging the approval. On March 20, 2017, the Los Angeles Superior Court issued its decision and on June 26, 2017, entered a Judgment that partially favored the petitioners. The Court found that the elements of the ASCP related to increased diversions of surface water (i.e., greater taking of stream water from the Arroyo Seco beyond its current withdrawal) required evaluation through the preparation of an EIR. The Court also ruled that the elements of the ASCP that did not relate to increased diversions were severable from the remainder of the ASCP and the ASCP IS/MND shall remain intact for these components, allowing them to move forward without any additional environmental review pursuant to CEQA.

As such, this Draft EIR is being prepared by the City in accordance with the terms and provisions of the Judgment and Peremptory Writ of Mandate, the City's Declaration in Support of the Judgment, the Statement of Decision on Petition for Writ of Mandate, and the Settlement Agreement (see Appendix A-2 of this Draft EIR). Because several components of the ASCP were allowed to proceed without any additional environmental review pursuant to CEQA, the proposed Project boundaries of Area 2 and Area 3 have been refined from those shown in the 2015 ASCP IS/MND to reflect the activities subject to review under this Draft EIR.

ES.4 Project Objectives

Section 15124 of the State CEQA Guidelines requires the Project Description of an EIR to include a statement of the objectives sought by the proposed Project, which is intended to help the Lead Agency to develop a reasonable range of alternatives to evaluate in the EIR and the preparation of Findings of Fact and a Statement of Overriding Considerations, if necessary. The statement of objectives may include the Project benefits. The objectives that have been established for the proposed project are listed below.

Objective 1: Fully divert and utilize the City's 25 cubic feet per second surface water rights while operating in a manner objectively consistent with the Raymond Basin Judgment.

Objective 2: Increase the capacity and functionality of the spreading basins to increase PWP's ability to recharge the groundwater basin, as envisioned by the 2011 Water Integrated Resources Plan with its recommendation to maximize the value of the groundwater basin and non-potable supplies.

Objective 3: Provide opportunities for increased aquatic biological functions within the Arroyo Seco by: (1) protecting aquatic animals from passing into the conveyance system, and (2) reducing existing impediments to fish passage at the diversion weir structure.

Objective 4: Increase PWP's ability to rely upon local water for its potable water supply to reduce reliance upon imported water supplies from the Metropolitan Water District of Southern California (MWD).

ES.5 Project Description Summary

The proposed Project includes improvements in two primary areas: Area 2, Diversion and Intake Replacement and Area 3, Spreading Basin Improvements. These areas are connected by the Gabrielino Trail/Access Road, which includes three bridge crossings over the Arroyo Seco in the vicinity of the Project site. The proposed Project involves construction activity and water infrastructure facility improvements in both areas, as well as construction truck traffic along portions of the Gabrielino Trail/Access Road.

The Project is being proposed to repair and replace water infrastructure facilities in the Upper Arroyo Seco that were damaged by debris flows caused by storms following the 2009 Station Fire. Damage to these structures has greatly reduced the City's capacity to divert water from the Arroyo Seco for spreading and pumping credits. The proposed improvements would allow for increased utilization of the City's pre-1914 surface water rights from the Arroyo Seco and maximize the beneficial uses of this important local water resource. The proposed Project would also improve biological functions within the Arroyo Seco. For any future fish populations that may establish in the Arroyo Seco, the new intake would include a fish screening feature to prevent fish populations from passing into the intake and conveyance system, and a roughened channel would be constructed directly downstream of the new weir to allow for future fish passage upstream during certain conditions (See Section 3, Project Description for additional details).

In Area 2, the proposed Project would demolish and remove the following structures: (1) existing concrete diversion weir, associated masonry abutments, and rock wall built over concrete dam that extends under the trail; (2) intake structure, metal ladder and platform, and trash racks; (3) concrete slab adjacent to the Gabrielino Trail/Access Road, and (4) excavations of soil/sediment, rocks, debris, and vegetation within the upstream diversion pool, downstream streambed, and on the adjacent slopes on the downstream side of the diversion weir.

The Project involves the construction of a new diversion weir and intake in the same location within the Arroyo Seco as the current facility. The proposed reinforced concrete diversion control structure would span the entire width of the existing channel and a 30-foot long operable weir crest gate would be located in a notched section of the structure and would be mechanically operated. Operation of the crest gate would be controlled by water depth measurements from a transducer located immediately upstream of the diversion. The crest gate would be raised to create a pool of water for diversion to the intake structure, and lowered to bypass diversions. During high flow conditions, the weir would be lowered to move sediment downstream and periodically restore the streambed elevation to the crest of the notch. The new intake would be equipped with a trash rack and fish screens to prevent future fish from entering the conveyance system to the spreading basins in Area 3. The proposed Project would also be protective of the potential for future fish populations in the Arroyo Seco with the inclusion of an engineered roughened channel downstream of the diversion structure that would allow return passage upstream when the weir crest gate is lowered.

In Area 3, the proposed Project includes the reconfiguration and expansion of the spreading basins in order to accommodate the increased diversion of stream flows for infiltration into the Raymond Basin. Existing Ponds 1 and 2, and Basins 1 and 2, would be replaced with Basin A and six new/expanded spreading basins. Stream flows from the existing conveyance system would outlet to the new sedimentation basin (Basin A) or to new spreading Basin E located over the existing Pasadena Pond 1. Basin F would be adjacent to mature trees to be preserved and would be located at the site of the existing Pasadena Pond 2. Basins G, H, and I would be located at the site of the existing Basins 1 and 2 and a portion of the City's open area (i.e., former JPL East Parking Lot). Each new basin would have an access ramp for maintenance. The new basins would remain connected to the remaining existing downstream basins within the City's spreading basin system.

A structural evaluation of Bridge No. 3 was conducted in 2018, subsequent to the placement of the temporary structural bridge overlay, which determined that the condition of Bridge No. 3 continues to deteriorate and is no longer safe for use (TJC 2018). Upon completion of the proposed Project, the City intends to keep the Bridge No. 3 overlay structures as-is, with the understanding that the reconstruction/replacement of Bridge No. 3 will eventually be required if the City wishes to maintain the bridge. The temporary structural bridge overlay allows for the safe passage of vehicles and pedestrians along the Gabrielino Trail/Access Road and to the USFS facilities and allows access to large vehicles, including fire trucks, that were previously restricted due to the loading limitations of the original bridge even before it was damaged. Since the temporary structure is constructed of steel elements and concrete, and will experience relatively light traffic, its expected service life is estimated to exceed 50 years. There may be safety risks associated with the continued deterioration of Bridge No. 3 if structural members fail and fall, and therefore the City may need to remove dangerous elements to protect public safety. Because there are no plans for the future reconstruction/replacement of the Bridge No. 3 at the time of the preparation of this Draft EIR, it is anticipated that the existing bridge may continue to deteriorate, and although not anticipated at this point, may even be removed to protect public safety.

During construction of the proposed Project, there may be times when portions of the Altadena Crest Trail, Gabrielino Trail/Access Road, Arroyo Seco Trail, and the unnamed trails/maintenance roads would be partially or fully closed to the public due to construction activities. Upon completion of the proposed Project, the temporarily disrupted trail network would be restored.

Long-term operations in Areas 2 and 3 would not be substantively different than the current conditions. No new employees or operations would be required to continue maintenance on the proposed facilities.

ES.6 Areas of Known Controversy

Section 15123(b) (2) of the CEQA Guidelines requires that areas of controversy known to the lead agency must be stated in the EIR summary. Issues of interest to the public and public agencies were identified during the 30-day public comment period of the Initial Study and NOP, which began on November 4, 2019 and concluded on December 6, 2019. Comments were received from public agencies and interested parties in response to the circulated Notice of Preparation (NOP). The City received nine comment letters in response to the Initial Study/NOP. Table 1, Notice of Preparation and Scoping Comment Letter Summary provides a brief overview of the NOP comments received by the City on environmental issues and identifies the appropriate section of the Draft EIR that addresses the topic. In compliance with CEQA Guidelines, the City held a scoping meeting on Thursday, November 21, 2019, at Robinson Park Recreation Center (1081 North Fair Oaks Avenue, Pasadena) from 6:00 PM to 8:00 PM. Comments received during the public review period were considered during preparation of this Draft EIR. The Initial Study/NOP is included as Appendix A-1 and NOP comment letters are included as Appendix A-2 of this Draft

EIR. In summary, known areas of concern include, but are not limited to: impacts to biological resources, including downstream resources that may be affected due to the diversion of additional flows from the Arroyo Seco into the spreading basins; cumulative impacts related to the ongoing sediment removal project being conducted by the County of Los Angeles Flood Control District at the adjacent Devil's Gate Reservoir; and consideration of alternatives that would rely more on the natural stream hydrology.

ES.7 Summary of Project Alternatives

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to the Project should occur. As stated in this section of the guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the Project. Each alternative should be capable of avoiding or substantially lessening any significant effects of the Project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required, per Section 15126.6.

ES.7.1 Alternatives Considered and Eliminated

Two alternatives for the Project were considered, but ultimately rejected from further analysis in the Draft EIR, consistent with Section 15126.6(c) of the CEQA Guidelines. A brief summary of the potential alternatives considered, but not carried forward, is provided below (see Section 6, Alternatives for additional details).

Reduced Diversion with In-Stream Spreading

Several of the letters received during the NOP public review period suggested that the proposed Project not be implemented in favor of an alternative approach that involves in-stream spreading and percolation. This proposed alternative set forth in the NOP comment letters was for the City to consider either: (1) leaving the flows in the “natural stream” and allowing them to be naturally absorbed within the stream, with the City taking credit for up to the calculated natural stream percolation capacity, and diverting the remainder into the spreading basins to achieve the 25 cfs surface water rights; or (2) installing a low berm facility within the Arroyo Seco near Johnson Field that would “spread” the flows within the stream bed and slow water to allow percolation.

Consolidated Facility Below JPL Bridge

A version of this potential alternative was preliminarily evaluated in the Upper Arroyo Seco Watershed Integrated Spreading Grounds Concept Report prepared by CDM Smith in 2012. This potential alternative would demolish the existing facilities in Area 2 and abandon the conveyance system and would restore that portion of the Arroyo Seco in Area 2. Stream flows would be captured behind the new consolidated diversion dam located just downstream of the JPL Bridge adjacent to Area 3 and diverted into the expanded spreading basins, as set forth in the proposed Project.

ES.7.2 Alternatives Evaluated in this EIR

This Draft EIR includes an evaluation of the following alternatives:

- Alternative A- No Project/No Action
- Alternative B- Redesignated Spreading Basins in Area 3
- Alternative C- Historic Bridge Rehabilitation

Alternative A – No Project/No Action

Under Alternative A, the proposed Project would not be implemented as discussed in Section 3 of this Draft EIR. The Areas 2 and 3 of the Project site would remain unchanged, and no development activity would occur.

Alternative B – Redesigned Spreading Basins in Area 3

Under Alternative B, all activities proposed within Area 2 would continue to be implemented, as set forth in the proposed Project. The alternative design of Area 3 would mimic the primary design objectives and operational characteristics of the proposed Project; however, Alternative B would provide an improved design for the spreading basins with more appeal for recreational users. The alternative would eliminate the rectangular shapes of the existing condition, as well as the proposed Project design, in favor of curvilinear basin features that more closely resemble natural channel and stream functions. The recreational amenities would be further improved through selective plantings around the basins. The Alternative B basin layout and landscaping would have the added benefit of enhancing the proposed trail network for pedestrians and equestrian usage, with incorporation of benches, interpretive signage, and shade structures adjacent to the spreading basins along the proposed pedestrian trails/maintenance roads. Alternative B would also include a slight realignment of Explorer Road to reflect the more curvilinear contours of the spreading basins and to allow for the future Explorer Well site to be east of the recreational trail amenities. Relocating the well site to the east would make it less prominent when viewing the area from the Gabrielino Trail above.

Alternative C – Historic Bridge Rehabilitation

Under Alternative C, all activities proposed within Areas 2 and 3 would continue to be implemented, as set forth in the proposed Project. Alternative C also includes the implementation of the recommendations of the Arroyo Seco Bridge (B3) Assessment Deterioration Comparison prepared by TJC Associates Inc. in 2018 (TJC 2018) as they relate to the reconstruction or replacement of primary structural features on historic Bridge No. 3, which is located within the Project's study area along the Gabrielino Trail/Access Road. All of the primary structural elements of the bridge; specifically, the joists below the bridge deck, the heavy timber support element at mid-span, the A-frame trusses on the east and west sides of the bridge, and the steel elements of the bridge are deteriorated and subject to failure, and would be replaced.

ES.7.3 Environmentally Superior Alternative

Alternative C would result in slightly increased short-term construction impacts to most environmental topics. For long-term impacts, Alternative C would not provide the protections related to wildfire preparedness as it pertains to the City's ability to accommodate firefighting equipment into and out of the Arroyo Seco Canyon and the ANF. However, this Alternative would eliminate the significant unavoidable impact related to historic resources and would be considered to be the environmentally superior alternative to the proposed Project.

ES.8 Discretionary Actions

The City of Pasadena, as lead agency, must consider the following discretionary actions:

- Project Approval and Certification of the Environmental Impact Report
- Modification to Conditional Use Permit No. 6222 to allow for utility improvements within the Open Space Zone
- Tree Removal Authorization

The following additional permits, approvals, and discretionary actions may be necessary as part of Project approval:

- U.S. Army Corps of Engineers – A Section 404 Nationwide Permit would be needed in order to allow the proposed project to discharge dredge and fill material into a “water of the United States.”
- Regional Water Quality Control Board, Los Angeles Region – 401 Water Quality Certification – Any discharge from the Project will be required to comply with applicable provisions of the Clean Water Act and regulated under the State’s Waste Discharge Requirement order.
- California Department of Fish and Wildlife (CDFW) – Section 1600 Streambed Alteration Agreement to authorize changes to the natural flow or the bed, channel, or bank of any river, stream, or lake and associated impacts to biological resources (needed for temporary and permanent disturbance of Arroyo Seco in Area 2 and for temporary impacts due to spreading basin expansion in Area 3).
- Los Angeles County Flood Control District – Encroachment Permit to authorize construction activities within the Altadena Storm Drain Easement.

ES.9 Summary of Environmental Impacts and Mitigation Measures

Table ES-1, Summary of Environmental Impacts and Mitigation Measures, provides a summary of the impact analysis related to the proposed Project and identifies the significant environmental impacts resulting from the Project pursuant to the CEQA Guidelines Section 15123(b)(1). For more detailed discussion, please see Sections 4.1 through 4.9 of this Draft EIR.

Table ES-1 also lists the applicable mitigation measures related to identified significant impacts, as well as the level of significance after mitigation is incorporated. As stated in Section 3, Project Description, of this Draft EIR, the Initial Study (IS) prepared and circulated with the NOP for public review on the Project (see Appendix A-1, Notice of Preparation and Initial Study) concluded that the Project would not result in significant impacts to Aesthetics, Agricultural and Mineral Resources, Energy, Geology and Soils (with the exception of impacts to paleontological resources, which is assessed under Cultural Resources for the purposes of this Draft EIR), Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Utilities and Service Systems, and Wildfire. Therefore, these topics are not addressed in this Draft EIR and not summarized in Table ES-1.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
<i>Air Quality</i>			
4.1a. Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant	None	Not Applicable.
4.1b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard	Less Than Significant	None	Not Applicable.
4.1c. Would the project expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant	None	Not Applicable.
<i>Biological Resources</i>			
4.2a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially Significant	<p>MM-BIO-1 Prior to commencement of any earthmoving activities or the pre-construction staging of equipment on the Project site, the City shall develop a Preconstruction Survey and Relocation Plan for terrestrial reptiles, including the California newt, two-striped gartersnake, Southern California legless lizard, and coastal whiptail. The Preconstruction Survey and Relocation Plan shall be submitted to the California Department of Fish and Wildlife (CDFW) for review prior to any ground-disturbing activities within potentially occupied habitat.</p> <p>The Plan shall include at a minimum, the following: (1) protocols for pre-construction surveys to flush out and/or move identified special status wildlife within the study area, as feasible; (2) the timing, frequency, and locations where surveys should be conducted; (3)</p>	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>the habitat and conditions in the proposed relocation site(s); (4) the methods that would be used for trapping and relocating identified species; (5) protocols for documentation/recordation of the species and number of animals relocated; and (6) protocols for notifying CDFW in the event that identified species cannot be relocated.</p> <p>The Plan shall require that a Biological Monitor be present during initial vegetation clearing activities within Areas 2 and 3, as well as twice weekly until ground disturbing activities are completed. The Biological Monitor shall also be familiar with least Bell’s vireo and shall conduct pre-clearing non-protocol surveys for this species while onsite. If a least Bell’s vireo or other State of federally listed species is detected, work activity within 200 feet of the detected occupied habitat will be temporarily halted and the City will consult with the appropriate wildlife agencies. With authorization from these agencies, which may include a ‘take’ permit, the project will proceed in accordance with conditions developed in the consultation. Conditions will include avoidance and minimization measures to prevent or minimize impacts on the listed species(s) occurring on or adjacent to the site.</p> <p>The Plan shall require that any individual special-status terrestrial wildlife species observed within the study area during the pre-construction survey(s) shall be flushed out and/or moved out of harm’s way to avoid direct impacts to these species, and if special-status species are detected, the Biological Monitor shall capture and relocate individuals to nearby undisturbed areas with suitable habitat outside of</p>	

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>the construction area, but as close to their origin as possible. The final recordation/documentation of any wildlife relocated during Project activities shall be made available to CDFW for confirmation that construction activities were executed in compliance with the approved Preconstruction Survey and Relocation Plan.</p>	
	Potentially Significant	<p>MM-BIO-2 Project construction shall be conducted in compliance with the conditions set forth in the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code with methods approved by the California Department of Fish and Wildlife (CDFW) to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal shall occur during the non-breeding season for nesting birds (generally late September to early March) and nesting raptors (generally early July to late January) to avoid impacts to nesting birds and raptors. If the Project requires that work be initiated during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 3 days prior to clearing of any vegetation and/or any work near existing structures (i.e., within 300 feet for nesting birds and within 500 feet for nesting raptors). If the Biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work shall be allowed to proceed.</p> <p>If the Biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be</p>	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>impacted or breeding activities substantially disrupted, the Biologist shall delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. Any nest found during survey efforts shall be mapped on the construction plans. The active nest shall be protected until nesting activity has ended. To protect any nest site, the following restrictions to construction activities shall be required until nests are no longer active, as determined by a qualified Biologist: (1) clearing limits shall be established within a buffer around any occupied nest (the buffer shall be 100–300 feet for nesting birds and 300–500 feet for nesting raptors), unless otherwise determined by a qualified Biologist and (2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified Biologist. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. Construction can proceed when the qualified Biologist has determined that fledglings have left the nest or the nest has failed.</p>	
	Potentially Significant	<p>MM-BIO-3 A Biological Monitor shall conduct a pre-construction bat habitat assessment of buildings and trees marked for potential removal. Potential for roosting shall be categorized by 1) potential for solitary roost sites, 2) potential for colonial roost sites (10 bats or more). If the potential for colonial roosting is determined, those trees shall not be removed during the bat maternity roost season (March 1 – July 31). Trees potentially supporting colonial roosts outside of</p>	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>maternity roost season, and trees potentially supporting solitary roosts may be removed via a two-step removal process, whereby some level of disturbance (such as trimming of lower branches) (at the direction of Biological Monitor) is applied to the tree on day one to allow bats to escape during the darker hours, and the roost tree shall be removed two days later (i.e., there shall be no less or more than two nights between initial disturbance and the grading or tree removal). When feasible, trees will be dropped slowly and a Biological Monitor will monitor the activity. If buildings are determined to be occupied, one-way exclusionary devices will be placed over bat access points and left in place for two nights prior to building removal.</p>	
<p>4.2b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</p>	<p>Potentially Significant</p>	<p>MM-BIO-4 Direct impacts to sensitive vegetation communities white alder–California sycamore woodland association and California sycamore woodlands alliance shall be mitigated through a combination of on-site and/or off-site measures. Mitigation for impacts to sensitive vegetation communities shall consider and overlap with compensation for jurisdictional waters (MM-BIO-6) since the sensitive vegetation is associated with the jurisdictional limits of Arroyo Seco. Mitigation for direct impacts to sensitive vegetation communities shall be implemented through on-site creation/enhancement, program funding, mitigation bank credits, and/or creation/enhancement of native vegetation communities on City lands. Mitigation acreages shall be implemented as shown in the Table below.</p>	<p>Mitigated to Less Than Significant</p>

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation																
		<table border="1" data-bbox="823 464 1709 714"> <thead> <tr> <th data-bbox="823 464 1241 553">Sensitive Vegetation Community</th> <th data-bbox="1241 464 1417 553">Direct Impacts (acres)</th> <th data-bbox="1417 464 1562 553">Mitigation Ratio</th> <th data-bbox="1562 464 1709 553">Mitigation (acres)</th> </tr> </thead> <tbody> <tr> <td data-bbox="823 553 1241 634">white alder–California sycamore woodland association</td> <td data-bbox="1241 553 1417 634">0.47</td> <td data-bbox="1417 553 1562 634">3:1</td> <td data-bbox="1562 553 1709 634">1.41</td> </tr> <tr> <td data-bbox="823 634 1241 675">California sycamore woodlands alliance</td> <td data-bbox="1241 634 1417 675">0.04</td> <td data-bbox="1417 634 1562 675">3:1</td> <td data-bbox="1562 634 1709 675">0.12</td> </tr> <tr> <td data-bbox="823 675 1241 714" style="text-align: right;">Totals:</td> <td data-bbox="1241 675 1417 714">0.51</td> <td data-bbox="1417 675 1562 714">–</td> <td data-bbox="1562 675 1709 714">1.53</td> </tr> </tbody> </table> <p data-bbox="951 784 1713 1109">On-site Mitigation. Prior to the issuance of a grading permit or any earthwork on the Project site, PWP shall prepare a Habitat Mitigation and Monitoring Plan (HMMP) for habitat enhancement and creation activities. The HMMP shall at a minimum include a feasible implementation structure, salvage/seeding details, invasive species eradication methods, irrigation system and schedule, a monitoring schedule, performance standard of success, estimated costs, and identification of responsible entities. The HMMP shall include restoration of the following habitats:</p> <p data-bbox="951 1141 1713 1390">Riparian Woodlands. Impacted areas of (white alder–California sycamore woodland association and California sycamore woodlands alliance) shall be created/restored within and adjacent to the same on-site areas that the woodland currently existed prior to Project implementation, as well as other areas deemed to have appropriate soils and topography for successful establishment. Understory areas shall be revegetated with a diversity of locally-collected seeds.</p>	Sensitive Vegetation Community	Direct Impacts (acres)	Mitigation Ratio	Mitigation (acres)	white alder–California sycamore woodland association	0.47	3:1	1.41	California sycamore woodlands alliance	0.04	3:1	0.12	Totals:	0.51	–	1.53	
Sensitive Vegetation Community	Direct Impacts (acres)	Mitigation Ratio	Mitigation (acres)																
white alder–California sycamore woodland association	0.47	3:1	1.41																
California sycamore woodlands alliance	0.04	3:1	0.12																
Totals:	0.51	–	1.53																

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>Temporary irrigation shall be established and maintained, with irrigation suspensions in times of rainfall. Successful establishment of the woodland shall be determined only after removal of irrigation system and confirmed ability of the woodland to survive in the absence of irrigation.</p> <p>It is anticipated that a one-time restoration effort followed by monitoring and invasive weed removal for a minimum of five (5) years would be required. The HMMP shall be submitted to the City, CDFW, USACE, and RWQCB for review and comment, and revised to the satisfaction of the City and the three agencies.</p> <p>Off-site Mitigation. If mitigation is implemented through mitigation program funding and/or mitigation bank credits, the Project Applicant shall work with the City, CDFW, USACE, and RWQCB to ensure the mitigation program funding and/or mitigation bank credits are appropriate to offset permanent impacts. Mitigation lands shall be comprised of similar or higher quality riparian woodland and preferably located in the vicinity of the site or watershed.</p> <p>If mitigation is implemented through offsite enhancement of City-owned lands, PWP shall prepare a HMMP that details the location and existing conditions of the offsite lands. The HMMP shall at a minimum include a feasible implementation structure, salvage/seeding details, invasive species eradication methods, irrigation system and schedule, a monitoring schedule, performance standard of success, estimated costs, and identification of responsible entities. It is anticipated that a one-time restoration</p>	

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>effort followed by monitoring and invasive weed removal for a minimum of five (5) years would be required. The HMMP shall be submitted to the City, CDFW, USACE, and RWQCB for review and comment, and revised to the satisfaction of the City and the three agencies.</p>	
		<p>MM-BIO-5 To prevent inadvertent disturbance to sensitive vegetation communities outside the limits of work, the construction limits shall be clearly demarcated (e.g., installation of flagging or temporary high visibility construction fence) prior to ground disturbance activities. All construction activities including equipment staging and maintenance shall be conducted within the marked disturbance limits. A qualified biologist shall be present during initial ground-disturbing activities within the Project site to ensure that Project activities stay within the demarcated limits.</p>	<p>Mitigated to Less Than Significant</p>
		<p>MM-BIO-6 Mitigation for direct impacts to jurisdictional waters shall be implemented through on-site enhancement of remaining jurisdictional waters and/or off-site acquisition, program funding, and/or mitigation bank credits. Mitigation ratios for each type of jurisdictional waters is shown in the Table below. Mitigation for temporary and permanent impacts to jurisdictional wetlands and waters shall consider and overlap with compensation for sensitive vegetation communities (MM-BIO-4).</p>	<p>Mitigated to Less Than Significant</p>

Jurisdictional Waters Type	Direct Impacts (acres)	Mitigation Ratio	Mitigation (acres) ^a
USACE waters of the United States	0.20	1:1	0.20
RWQCB waters of the state	2.58	1:1	2.58
CDFW streambed and bank, with riparian vegetation ^b	0.49	3:1	1.47
CDFW streambed and bank, with non-riparian habitat ^c	2.41	1:1	2.41

Notes:

^a Mitigation areas for each jurisdictional type may overlap

^b white alder–California sycamore woodland (0.48 acres) and coast live oak woodland (<0.01 acres)

^c California sagebrush–California buckwheat–laurel sumac scrub (<0.001 acres); urban/developed (0.03 acres); disturbed habitat (2.38 acres); laurel sumac scrub (<0.01 acres)

On-site Mitigation. Prior to the issuance of a grading permit or any earthwork on the Project site, PWP shall prepare a HMMP for habitat enhancement and creation activities. The HMMP shall at a minimum include a feasible implementation structure, salvage/seeding details, invasive species eradication methods, irrigation system and schedule, a monitoring schedule, performance standard of success, estimated costs, and identification of responsible entities. The HMMP shall include restoration of the following habitats:

Riparian Woodlands. Impacted areas of (white alder–California sycamore woodland association and coast live oak woodland) shall be created/restored within and adjacent to the same on-site areas that the woodland currently existed prior to Project implementation, as well as other areas deemed to have appropriate soils and topography for successful establishment. Understory areas shall be revegetated with a diversity of locally-collected seeds. Temporary irrigation shall be established and maintained, with irrigation suspensions in times of rainfall. Successful establishment of the woodland shall be determined

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>only after removal of irrigation system and confirmed ability of the woodland to survive in the absence of irrigation.</p> <p>It is anticipated that a one-time restoration effort followed by monitoring and invasive weed removal for a minimum of five (5) years would be required. The HMMP shall be submitted to the CDFW, USACE, and RWQCB for review and comment, and revised to the satisfaction of the three agencies.</p> <p>Off-site Mitigation. If mitigation is implemented through mitigation program funding and/or mitigation bank credits, PWP shall work with the CDFW, USACE, and RWQCB to ensure the mitigation program funding and/or mitigation bank credits are appropriate to offset permanent impacts. Mitigation lands shall be comprised of similar or higher quality riparian woodland and preferably located in the vicinity of the site or watershed.</p> <p>If mitigation is implemented through offsite enhancement of City-owned lands, PWP shall prepare a HMMP that details the location and existing conditions of the offsite lands. The HMMP shall at a minimum include a feasible implementation structure, salvage/seeding details, invasive species eradication methods, irrigation system and schedule, a monitoring schedule, performance standard of success, estimated costs, and identification of responsible entities. It is anticipated that a one-time restoration effort followed by monitoring and invasive weed removal for a minimum of five (5) years would be required. The HMMP shall be submitted to the CDFW, USACE, and RWQCB for review and comment, and revised to the satisfaction of the three agencies.</p>	

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
4.2c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially Significant	See MM-BIO-5 and MM-BIO-6	Mitigated to Less Than Significant
4.2d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less Than Significant	<p>MM-BIO-7 Prior to the commencement of earthmoving within Area 2 for the demolition of the existing diversion/weir structure, the City shall develop a Native Resident and Migratory Fish Monitoring Plan (Monitoring Plan), in consultation with CDFW. This Monitoring Plan shall set forth annual monitoring requirements to determine if native fish species or migratory fish populations are present within an approximate 3,500-foot section of the stream (about 1,500 feet upstream of the diversion/weir structure to the abandoned headworks (Area 1) and 2,000 feet downstream to the JPL Bridge at the mouth of the canyon). Annual survey protocols shall be established to the satisfaction of CDFW and set forth in the Monitoring Plan. If the results of the annual surveys reveal a positive presence of native fish, the Monitoring Plan shall set forth thresholds for determining the permanency of the population, and whether or not connectivity both upstream and downstream of the diversion structure is appropriate and in the best interest of the long-term survival of an established native or migratory fish population, given hazards associated with stranding downstream. Until passage for steelhead is restored to the Arroyo Seco, the City shall implement a program to rescue fish between the diversion</p>	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>structure and the JPL Bridge. If rescue is determined to be ineffective or impractical, then the City shall modify its operations to accommodate passage. At such time as steelhead passage is restored, the City shall alter either the design of the diversion/weir structure, the operational methods of the diversion/weir structure, or both to satisfy Fish and Game Code Sections 5901 and 5937.</p>	
<p>4.2e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p>	<p>Potentially Significant</p>	<p>MM-BIO-8 A qualified biologist shall be present during initial ground-disturbing activities within the Project site to ensure that Project activities stay within the demarcated limits, as required in MM-BIO-5. This qualified biologist shall identify the number of City-protected trees that are removed as a result of Project construction activities, as well as trees that would be encroached upon. This inventory of trees shall be used to determine an appropriate tree replacement program that shall be, at a minimum, consistent with the City’s Tree Ordinance (Chapter 8.52 of the Pasadena Municipal Code) and the Ordinance’s administrative guideline replacement matrix, as it relates to tree replacement of protected trees.</p> <p>Trees within approximately 15 feet of proposed construction activity shall be temporarily fenced with chain-link fencing in accordance with the City’s Tree Ordinance and Tree Protection Guidelines. The fencing shall be installed to the extent of the tree’s dripline plus four (4) radial feet and be minimum six (6) feet high with an access gate of minimal width. The fenced area shall be considered the Tree Protection Zone (TPZ) unless proximate construction required temporary removal.</p>	<p>Mitigated to Less Than Significant</p>

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>All trees that have been substantially root pruned (30% or more of their root zone) during construction within the TPZ shall be monitored by an International Society of Arboriculture Certified arborist for the first five years after construction completion. The arborist shall submit an annual report, photograph each tree and compare tree health and condition to the original, pre-construction baseline. For trees that do not survive the five-year monitoring period, such trees shall be replaced in accordance with the requirements of this measure.</p>	
Cultural Resources			
<p>4.3a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?</p>	<p>Potentially Significant</p>	<p>MM-CUL-1 Prior to the commencement of construction vehicle and truck traffic along the Gabrielino Trail/Access Road north of the JPL Bridge, the City shall ensure that Bridge No. 2 and all identified arroyo stone wall features along the affected portions of the Gabrielino Trail/Access Road are properly protected for the duration of construction activities. The City shall install temporary protective barriers in the form of concrete k-rails along the decorative railings of Bridge No. 2 on both sides of the road to protect the railings from further deterioration and damage from vehicles. The concrete k-rails shall be removed once the Project is completed leaving Bridge No. 2 intact. The concrete k-rails shall be installed parallel to the Bridge’s existing baluster railings, with approximately 2 feet of separation between the k-rail and the resource. The k-rails shall be positioned to ensure that the Bridge railings are protected from daily construction traffic. The k-rails shall not be permanently attached to</p>	<p>Mitigated to Less Than Significant</p>

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>the bridge. All arroyo stone wall features adjacent to the Gabrielino Trail/Access Road shall be protected by concrete k-rails wherever feasible; however, in areas where k-rails would create an impassable or bottleneck situation for vehicles, the City shall utilize other reasonable protections, including cones and flagging, to ensure that the arroyo stone walls are not inadvertently damaged during construction vehicle movement and equipment transport. The plans for the temporary barriers shall be reviewed by a qualified architectural historian prior to Project implementation. In order to ensure that the bridge and stone walls are adequately protected during Project activities, the City shall ensure completion of pre-construction and post-construction surveys by a qualified historic preservation consultant to ensure that adverse effects or significant impacts have not occurred to Bridge No. 2. If the pre-construction survey identifies deficiencies in the protections for Bridge No. 2 or the stone walls, recommendations for additional physical barriers or visual warnings shall be provided and implemented prior to initiation of construction activities. The installation/construction methodology and post-construction survey shall be submitted to the City of Pasadena Department of Planning – Historic Preservation for review and approval.</p>	
	Potentially Significant	<p>MM-CUL-2 Prior to construction completion, the City shall ensure preparation of Historic American Engineering Record (HAER) documentation for Bridge No. 3 in accordance with the Secretary of the Interior’s Standards for Architectural and Engineering Documentation. Documentation shall be completed by a qualified historic preservation professional who meets the</p>	Significant and Unavoidable

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>Secretary of the Interior’s Professional Qualifications Standards for architectural history. The documentation shall capture the physical description of the existing bridge with: 1) existing as-builts/drawings (where/if available); 2) a written narrative that includes a detailed history and architectural description of the bridge and a discussion of its historical significance; 3) photographs of the bridge with large format negatives to demonstrate its current condition; and 4) provide other photographs of the bridge prior to installation of the current overlay. Upon approval of the final HAER package, the City shall offer one original copy of the final HAER package to the City of Pasadena Historic Preservation Program, the South Central Coastal Information Center at California State University, Fullerton, and the Angeles National Forest Administrative Office.</p> <p>Prior to construction completion, the City shall conduct a review of the bridge overlay design on Bridge No. 3 and construction materials used in the bridge overlay to determine improvements that can be made to conform with the City’s Arroyo Seco Design Guidelines. Examples of potential improvements include, but are not limited to, evaluation of appropriate paint colors that reflect the natural character of the Arroyo Seco, and replacement of components with more natural materials (e.g. wood, concrete, brick, arroyo stone piers, unpainted weathering steel or other natural materials, such as copper and wrought iron). The proposed design improvements shall be submitted to the City of Pasadena Department of Planning – Historic Preservation for review and approval.</p>	

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	Potentially Significant	<p>MM-CUL-3 Prior to commencement of Project construction activities that would require equipment staging at the Behner Water Treatment Plant (WTP), the City shall ensure that the exterior of the WTP building is adequately protected from equipment and vehicle staging activities. The northwest and southwest exterior elevations of the WTP shall, at a minimum, be protected by construction fencing and signage to ensure that none of the major exterior character-defining features of the building are inadvertently damaged. Fencing shall be placed at a minimum distance of five (5) feet from the exterior of the building, and crews working in the immediate vicinity should be alerted to the presence of an historical resource and instructed to avoid it. The City shall ensure that Project-related equipment and materials are not in contact with the exterior or the building, including absolute avoidance of leaning materials and equipment against exterior walls. The temporary fencing, signage, and barriers shall be removed at the conclusion of construction activities.</p>	Mitigated to Less Than Significant
4.3b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	Potentially Significant	<p>MM CUL-4 Prior to commencement of earthmoving activities, the City shall retain a qualified Archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for Archaeology. The Archaeologist shall be present at the pre-grade conference; shall establish procedures for archaeological resource surveillance; and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts, as appropriate. At a minimum, in the event archaeological resources are exposed during construction activities, all construction work occurring within 100</p>	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>feet of the find shall immediately stop until a qualified archaeologist can evaluate the significance of the find and determine whether or not additional study is warranted. The Archaeologist shall first determine whether it is a “unique archaeological resource” pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the California Public Resources Code) or a “historical resource” pursuant to Section 15064.5(a) of the State CEQA Guidelines. If the archaeological resource is determined to be a “unique archaeological resource” or a “historical resource”, the Archaeologist shall formulate a mitigation plan in consultation with the City of Pasadena that satisfies the requirements of the above-referenced sections. The Archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following guidelines of the California Office of Historic Preservation, and s/he shall record the site and submit the recordation form to the City of Pasadena and the California Historic Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. Work may proceed in other areas of the site, subject to the direction of the Archaeologist.</p>	
<p>4.3d. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>	<p>Potentially Significant</p>	<p>MM-PALEO-1 Prior to commencement of any grading activity on-site, the City shall retain a qualified Paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project. The PRIMP shall be consistent with the SVP (2010) guidelines. Minimum requirements to be set forth in the PRIMP include: (1) attendance at the preconstruction meeting and</p>	<p>Mitigated to Less Than Significant</p>

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>worker environmental awareness training, where monitoring is required within the proposed Project site based on construction plans and/or geotechnical reports; (2) procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods, including sediment sampling for microvertebrate fossils, reporting, and collections management; (3) mandatory monitoring on-site during all rough grading and other significant ground-disturbing activities, including augering in previously undisturbed, fine-grained Pleistocene alluvial deposits; (4) mandatory actions in the event that paleontological resources (e.g., fossils) are unearthed during grading, including the requirement for the paleontological monitor to temporarily halt and/or divert grading activity to allow recovery of paleontological resources, and roping/fencing off of the discovery with a 50-foot radius buffer; and (5) if resources are discovered, methods for coordination between the qualified paleontologist and the City for appropriate exploration and/or salvage, as well as final disposition of the resources in an accredited institution or museum, such as the Natural History Museum of Los Angeles County.</p>	
Greenhouse Gas Emissions			
4.4a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant Impact	None	Not Applicable

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
4.4b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant Impact	None	Not Applicable
Hydrology and Water Quality			
4.5b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than Significant Impact	None	Not Applicable
4.5c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?	Less than Significant Impact	None	Not Applicable

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Noise			
4.6a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		<p>MM-NOI-1 The City and/or their Construction Contractor shall implement the following noise reduction measures during all construction activities:</p> <ul style="list-style-type: none"> • Equip all construction equipment (fixed or mobile) with properly operating and maintained mufflers, consistent with or exceeding manufacturers' standards. • Ensure that construction equipment engine enclosures and covers as provided by manufacturers shall be in place during operation. • Place all stationary construction equipment so that the equipment is as far as feasible from noise-sensitive receptors and so that the emitted noise is directed away from the noise-sensitive receptors. • Locate equipment and materials staging in areas that will create the greatest distance between staging area noise sources and noise-sensitive receptors during Project construction. • Ensure that construction equipment is shut down when not in use. • Limit haul truck deliveries to the same hours specified for the operation of construction equipment. 	Mitigated to Less Than Significant
4.6b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant Impact	None	Not Applicable

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Recreation			
<p>4.7a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</p>	<p>Potentially Significant</p>	<p>MM-REC-1 Prior to the closure of recreational trails for public use, the City of Pasadena shall post signs providing at least one week of advanced notice of the dates and times of planned trail closures at the following locations:</p> <ul style="list-style-type: none"> • Intersection of Ventura Street and Windsor Avenue • Sunset Overlook • Altadena Crest Trail (adjacent to the North Arroyo Boulevard) • Arroyo Seco Trail • West Rim Trail/East Rim Trail <p>In addition to the closure notice signage, the City shall provide the locations of nearby trails and recreational facilities in the surrounding area that would be open for public use at the times when the trails are closed. This information shall also be posted on the City’s Parks, Recreation and Community Services website.</p>	<p>Mitigated to Less Than Significant</p>
Transportation			
<p>4.8a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?</p>	<p>Potentially Significant</p>	<p>MM TRA-1 During the peak phase of construction activities (i.e. during the demolition phase requiring haul truck trips) in Area 3, all Construction Contractors shall schedule the arrival and departure of the sediment export haul trucks to be outside the AM peak hours of 7:30 AM to 8:30 AM and the PM peak hours of 4:30 PM to 5:30 PM.</p>	<p>Mitigated to Less Than Significant</p>

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	Potentially Significant	MM TRA-2 During construction activities in Areas 2 and 3, use of the North Arroyo Boulevard or Gabrielino Trail/Access Road by hikers, bicyclists and equestrians shall be limited or prohibited when temporary partial or full closures of the Gabrielino Trail/ Access Road, Explorer Road, hiking trails or maintenance roads is necessary. In addition to the requirements for notification set forth in the City’s Supplements and Modifications to the Greenbook, flagpersons and/or other safety procedures shall be used as necessary to ensure the safety of recreational users.	Mitigated to Less Than Significant
	Potentially Significant	MM TRA-3 Prior to the start of construction, the City and/or their Construction Contractor shall provide written notice to the USFS and residences at the Ranger Station of the anticipated construction schedule, stating that access may be temporarily obstructed on an intermittent basis and providing a schedule of anticipated closures. In order to ensure that emergency vehicles would not be obstructed at any time, any temporary obstructions to the Gabrielino Trail/Access Road that could hinder emergency vehicular access shall be mobile and able to be removed from the roadway immediately upon notice from emergency responders.	Mitigated to Less Than Significant
Cumulative 4.8a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Potentially Significant Cumulative Impact	MM CUM-1 The City and/or their Construction Contractor shall coordinate with the Los Angeles County Department of Public Works and/or their contractor for the sediment removal activities at Devil’s Gate Reservoir regarding the schedule of trucks to and from landfills that would require the use of Interstate 210 eastbound ramps/Arroyo Boulevard intersection. If it is determined that activities would overlap and Project traffic and cumulative traffic including the Devil’s Gate project traffic would have vehicle queues at Caltrans facilities that exceed available storage	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		lengths, then the City and/or their contractor shall implement construction vehicle/hauling restrictions that disallow the proposed Project’s truck traffic during the AM and PM peak hours of 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM.	
Tribal Cultural Resources			
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <ul style="list-style-type: none"> a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set 	Potentially Significant	<p>MM-TCR-1 Prior to commencement of any ground-disturbing activities, the City of Pasadena shall retain a Native American Monitor approved by the Gabrieleño Band of Mission Indians-Kizh Nation – the tribe that consulted on this project pursuant to Assembly Bill AB 52 (the “Tribe” or the “Consulting Tribe”). The Tribal monitor shall only be present on the Project site during the construction phases that involve ground-disturbing activities. Ground disturbing activities may include, but may not be limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching within the Project area. The Tribal Monitor shall complete daily monitoring logs that provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project site are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground disturbing activities at the Project site have little to no potential for impacting Tribal Cultural Resources. Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by Project activities shall be evaluated by</p>	Mitigated to Less Than Significant

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
<p>forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?</p>		<p>the qualified archaeologist (as required in MM-CUL-4) and the Tribal Monitor approved by the Consulting Tribe. If the resources are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural and/or historic purposes.</p>	
	<p>Potentially Significant</p>	<p>MM-TCR-2 If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue on other parts of the Project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American resource is determined by the qualified archaeologist to constitute a “historical resource” or “unique archaeological resource,” time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological</p>	<p>Less than Significant</p>

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.</p>	

ES.10 References

TJC (TJC and Associates Inc.). 2018. *Arroyo Seco Bridge (B3) Assessment Deterioration Comparison*. Final version. Prepared for Pasadena Water and Power. March 16, 2018.

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