

# AZUSA HYDROELECTRIC PIPELINE SEISMIC RETROFIT PROJECT

Final Initial Study / Mitigated Negative Declaration

Prepared for  
Pasadena Water & Power

January 2013



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# ENVIRONMENTAL CHECKLIST FORM

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1. **Project Title:** Azusa Hydroelectric Pipeline Seismic Retrofit Project
2. **Lead Agency Name and Address:** City of Pasadena  
Pasadena Water and Power  
85 East State Street  
Pasadena, CA 91105
3. **Contact Person and Phone Number:** Jason Miller, P.E.  
626.744.6276
4. **Project Location:** 1850 N. Ranch Road  
City of Azusa, CA
5. **Project Sponsor's Name and Address:** City of Pasadena  
Pasadena Water and Power  
85 East State Street  
Pasadena, CA 91105
6. **General Plan Designation:** Open Space
7. **Zoning:** OS – Open Space
8. **Description of Project:**

The City of Pasadena owns and operates an existing hydroelectric plant located in the City of Azusa, approximately three miles northeast of the intersection of Interstate (I) 605 and I-210. The plant facilities include two above ground hydroelectric pipelines that are used to create hydropower. Both are aged and require structural retrofitting in order to enhance their resistance to damage and failure during a seismic event. Under the proposed project, the City of Pasadena would provide the appropriate structural upgrades to the existing pipeline facilities. The project would not expand the footprint of the facility or capacity of the pipelines, nor would it increase the number of personnel servicing the project site on an operational basis.
9. **Surrounding Land Uses and Setting:**

The project is surrounded by open space to the north and east of the pipelines, and residential uses to the south and west of the project site.
10. **Other public agencies whose approval is required:**

Federal Energy Regulatory Commission (FERC)

## Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                    | <input type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality              |
| <input type="checkbox"/> Biological Resources          | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology / Soils          |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality          | <input type="checkbox"/> Land Use / Planning      |
| <input type="checkbox"/> Mineral Resources             | <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population / Housing     |
| <input type="checkbox"/> Public Services               | <input type="checkbox"/> Recreation                         | <input type="checkbox"/> Transportation / Traffic |
| <input type="checkbox"/> Utilities / Service Systems   | <input type="checkbox"/> Mandatory Findings of Significance |   |

### DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Jennifer Paige  
Signature

3/4/13  
Date

Jennifer Paige  
Printed Name

# Project Description

## Project Location

The proposed project is located in the eastern portion of Los Angeles County, in the City of Azusa, approximately 20 miles northeast of downtown Los Angeles. The project site is in the northern portion of the City, just south of the Angeles National Forest and San Gabriel River. The site is located approximately three miles northeast of the intersection of Interstate (I-) 605 and I-210, as shown in Figure 1. Access to the site is from I-210, via North Azusa Drive to Ranch Road; conversely from Ranch Road to North San Gabriel Canyon Road to I-210 (Figure 2).

The project site is located in a suburban area with surrounding residential uses and open space. The project site is designated in the City of Azusa's General Plan as Open Space and is directly adjacent to land designated as open space and low-density and moderate-density residential. The San Gabriel River is located approximately 0.3 mile north from the project site.

## Project Characteristics

The City of Pasadena owns and operates an existing hydroelectric plant located in the City of Azusa. There are two above ground pipelines associated with the hydroelectric plant; one is the Penstock, a 38-inch welded steel pipe installed in 1948; and the other is the Spillway Bypass pipeline, a 36-inch reinforced concrete pipe installed in the 1930s. These pipelines are located adjacent to the plant and atop two ridges. The pipelines are fed by a forebay, which is a reservoir that channels the water into the pipes, at the top of the hill from which these ridges run down.

Both pipelines are aged, have structural deficiencies, and require structural retrofitting in order to enhance their resistance to damage and reduce the possibility of failure during a seismic event. The City of Pasadena is proposing to undertake the appropriate structural upgrades to the existing pipeline facilities only. These upgrades would occur "in kind" to existing infrastructure. The proposed project would not expand the existing footprint of the facility or capacity of the pipelines, nor would it increase the number of personnel servicing the project site on an operational basis. Also, the project would not increase the generation capacity of the facility nor would it increase the amount of water used to run the generator. Construction staging would also occur within existing disturbed areas, and no staging activity would occur in the adjacent open space areas.

### Penstock

The Penstock is a 38-inch inside diameter welded steel pipe installed in 1948. The pipeline is supported by steel rings and concrete blocks. The Penstock Pipeline measures approximately 800 feet from where it exits the forebay to where it enters the powerhouse, dropping 390 feet in elevation. Where it is above ground, the Penstock is supported on 19 steel ring supports on rockers which in turn are supported on 5-foot wide concrete anchor blocks embedded into the

hillside. The visible segment of the Penstock within the project area measures approximately 500 feet in length.

Several of the Penstock concrete supports have become substantially exposed due to erosion and other supports have become buried with debris to the point that supports have become locked up and do not work properly to allow unrestricted thermal expansion or contraction of the pipe. The pipeline is currently operating without material leakage; however, some of its pipe supports have rotated and at least one support is near collapse. Collapse of a support may lead to severe leakage, and compromise the remainder of the pipeline. In addition, a complete blowout of the pipe at the top of the hill near the expansion joint is an increasing possibility as the facility ages. Furthermore, a moderately large earthquake or continued erosion of the hillside could trigger a collapse of the concrete supports.

To improve the condition of the pipeline, the following upgrades are proposed for the Penstock:

- Removal of soil and debris from rocker supports that have become buried, and installation of small diversions to prevent future accumulation of debris around the rockers. In addition, an annual maintenance program would be instituted to clear ongoing accumulation of debris.
- Filling in eroded areas at supports, as needed, with concrete and controlled density fill.
- Resetting the existing rocker supports to their original positions. This would entail raising the pipe by 1 to 2 inches, resetting the rocker, and setting the pipe down atop the reset rocker.
- Modifying two supports near the uphill expansion joint to prevent disengaging from a major earthquake. This would entail welding small steel plates to the existing ring supports.
- Removal of exterior corrosion near the two existing expansion joints and recoating the exterior of the pipe.
- A galvanized steel hand rail and staircase may be installed for improved access to the forebay.

## **Spillway Bypass**

The Spillway Bypass is a 36-inch diameter segmented concrete pipe installed in 1939. The pipeline consists of a reinforced concrete pipe with segment lengths of approximately 8 feet. The segment of Spillway Bypass within the project area measures approximately 560 feet in length. In a seismic event, the pipeline could uplift its supports and crack joints, resulting in failure of the pipe and release of water. If an earthquake occurs while the pipe is in operation, the internal pressure of the water could result in a large sideways thrust of pressure on the pipe, further opening the joints and cause a full blowout of the pipe.

To improve the condition of the pipeline, the following upgrades are proposed for the Spillway Bypass:

- New steel straps would be attached to the pipe at selected locations to prevent excessive uplift or lateral displacement of the pipe. The steel straps would be 2.5-inch by 0.375-inch galvanized plates, attached to the existing concrete anchor blocks (or the original concrete flumes, or with spikes driven into the hillside, depending on site conditions).
- Minor concrete modifications, as needed, to accommodate the new external steel straps.
- Repainting of damaged pipeline collar connections at select locations.

## **Construction**

Construction activities are expected to occur over six months beginning in March 2013 and ending in September 2013. The first ten days would consist of site preparation, and the remaining time would be implementation of the upgrades listed above. A maximum of 20 workers are needed during the site preparation phase and a maximum of 25 workers for construction. The maximum amount of worker trips would be 25 round trips per day. The hours of construction would be limited to Monday through Friday, 7:00 am to 5:00 pm.

The retrofitting activities would be limited to a six foot area on either side of the pipeline's respective outer edge. Work on the pipelines would be performed using manual labor, hand tools, portable combustion engine generators, welding equipment, and cutting equipment. Work would include: welding, grinding, replacing old conduit, removal of soil for erosion control, and repainting or recoating the pipes to prevent corrosion. The steep terrain makes the use of large or earthmoving equipment along the pipelines impossible.

A cable pulley and an electrically-powered overhead carriage system may be used to move tools. In addition, a helicopter may be used to transport supplies and materials up to higher parts of the pipeline. A maximum of ten helicopter trips may occur.

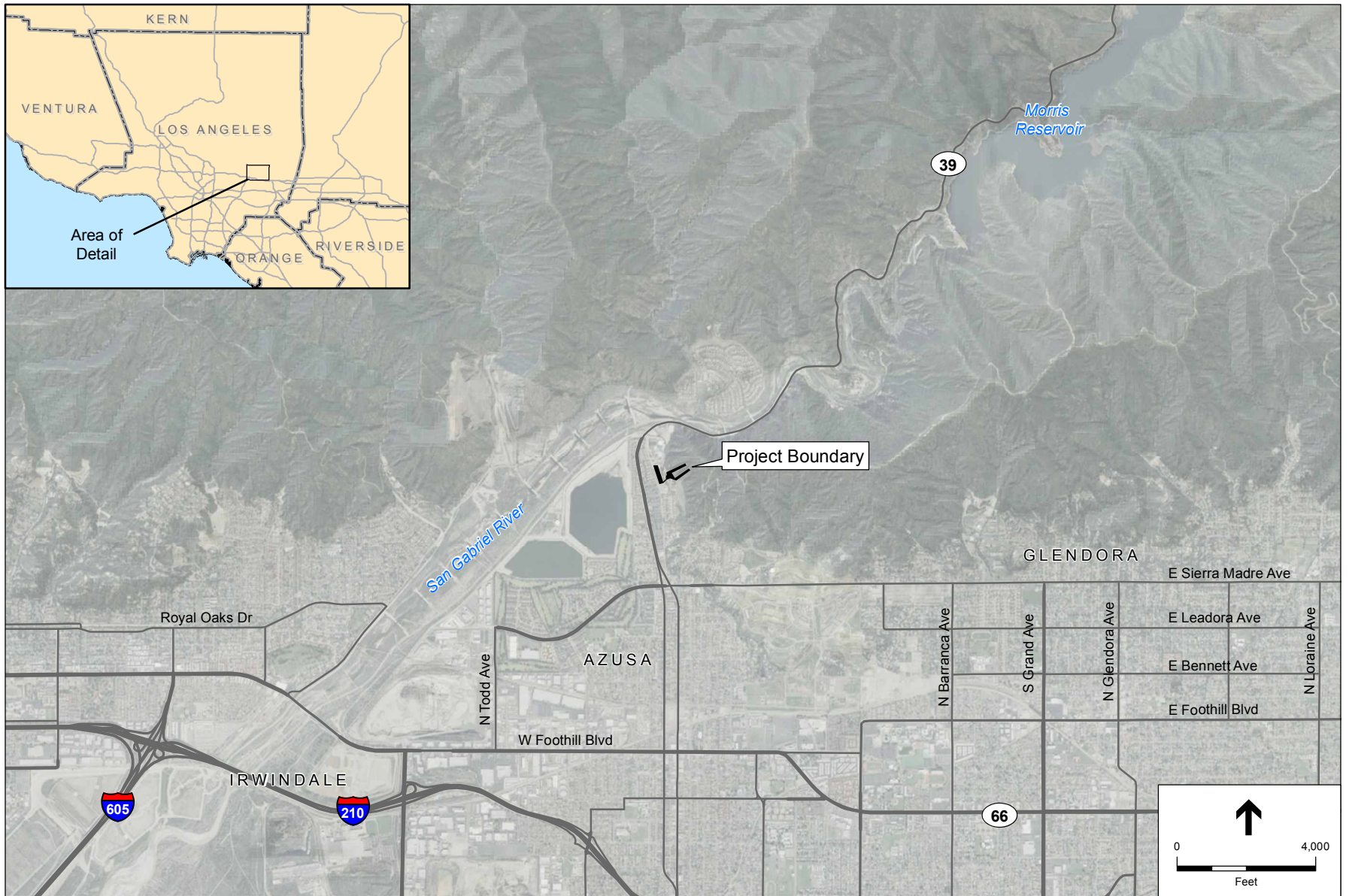
Combustion equipment is anticipated to include:

- Two to three 150 horsepower (hp) Portable Air Compressors
- Three to four 20hp Portable Generators
- Two to three 150hp Portable Welding Machines

Storage and staging areas would be located at the base of Penstock pipe, within the hydroelectric plant boundaries. Access to the site is provided from I-210, via North Azusa Drive to Ranch Road; conversely from Ranch Road to North San Gabriel Canyon Road to I-210. An estimated ten to twenty truck trips are expected to deliver construction materials, and five to ten truck trips to dispose of construction debris throughout the lifetime of project construction. The maximum truck trips per day during construction would be three trips.

The overall maximum amount of construction related truck and worker trips would be 28 round trips per day.

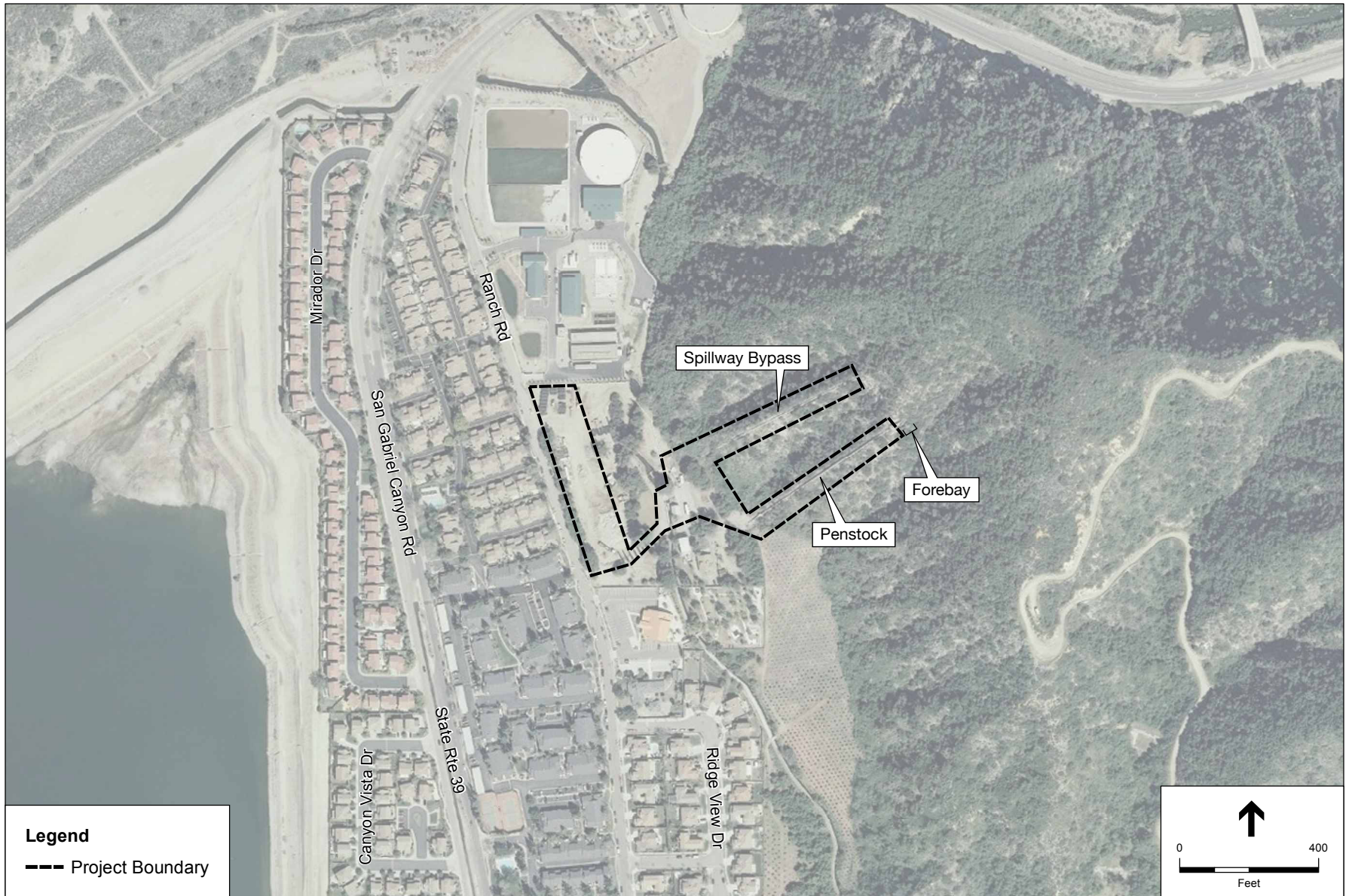




SOURCE: ESRI; Los Angeles County GIS, 2012.

Azusa Hydroelectric Pipeline . 120288

**Figure 1**  
Regional Location



SOURCE: ESRI; Los Angeles County GIS, 2012.

Azusa Hydroelectric Pipeline . 120288

**Figure 2**  
Project Location

# Environmental Impacts

## Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>1. AESTHETICS—Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Explanation:

- a. No Impact.** The proposed project would not have an adverse effect on a scenic vista. The proposed project is located near the base of the San Gabriel Mountains in the City of Azusa. Areas of scenic beauty that are identified in the City of Azusa’s General Plan are located out of view, to the north and east of the project site. This includes: the San Gabriel Canyon Floodway, Trailer Park, and Glendora Ridge. Because the location of the existing pipelines is on the western face of the hillside, the General Plan identified areas of scenic beauty are not visible from the site.

The proposed project would seismically retrofit two existing pipelines atop two ridges on a hill that are a part of an existing hydroelectric plant. The project is a structural upgrade that would improve the existing aged and degraded facilities, and short-term construction activities would occur within the construction alignment surrounding the existing pipeline. The project would not expand the footprint of the facility or size of the pipelines, nor would it increase the number of personnel servicing the project site on an operational basis. Views of the project site and adjacent open space areas would not be changed as a result of the project. As a result, the proposed project would not have an adverse effect on a scenic vista.

- b. No Impact.** There are no officially designated state scenic highways in the vicinity of the proposed project. The nearest designated state scenic highway is State Route (SR) 2, which is located over ten miles north from the project.<sup>1</sup> SR 39 is an eligible state scenic highway and runs approximately 0.2 mile west of the proposed project. In addition, the City of Azusa’s General Plan designates SR 39 as a scenic road. The proposed project would not damage scenic resources, as the project is limited to upgrading existing

<sup>1</sup> Caltrans Scenic Highways Website. Accessed on August 21, 2012 from [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/scenic_highways/).

pipeline facilities and would not create impairments to views. As a result, there are no potential impacts related to scenic resources within a state scenic highway.

- c. Less Than Significant Impact.** The proposed project would not negatively affect the existing visual character or quality of the project site and its surroundings. The project site currently includes a hydroelectric power plant and its associated aboveground pipeline facilities along a hillside. The proposed project would upgrade the existing aged and degraded structural supports. The exterior of the Penstock pipeline would be recoated; and the Spillway Bypass would be repainted at select locations. The paint would be consistent with the existing pipelines and surrounding environment. In terms of the character, the project area is surrounded by low density residential and hillside open space. The improvements to the existing facilities would not change the character of the project site. During construction of the proposed project, construction activities could be visible from adjacent open space and residential uses. However, the construction area would be limited to a 6-foot wide corridor on each side of the pipelines, and construction staging would be located at the base of Penstock, within the hydroelectric plant boundaries. As described in the project description, work on the pipelines would be performed using manual labor and large or earthmoving equipment would not be used, which would limit visual impacts from construction activities. In addition, views of construction would be temporary. As a result, impacts related to degradation of the existing visual character or quality of the site and its surroundings would be less than significant.
- d. No Impact.** The proposed project consists of a structural upgrade to the existing pipelines used by the existing hydroelectric plant. No new light sources or glare element would be introduced from the improved pipeline facilities. Construction would be limited to the hours of 7:00 am to 5:00 pm, and no construction lighting would be required. As a result, there would be no new lighting or glare that would affect day or nighttime views in the area.

# Agricultural and Forest Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>2. AGRICULTURAL AND FOREST RESOURCES</b>				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.				
<b>Would the project:</b>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220 (g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to a non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

**a-e. No Impact.** The proposed project would seismically retrofit two existing pipelines atop two ridges. The project site does not have a history of agricultural production and is unsuitable for agricultural activity, as it is located on steep slopes and a ridge top.

The Azusa General Plan designates the site as Open Space. Furthermore, the project site contains no prime farmland, unique farmland, or farmland of statewide importance, as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program<sup>2</sup> of the California Resources Agency. Implementation of the proposed project would have no impact on agricultural resources.

<sup>2</sup> Division of Land Resources Protection .Los Angeles County Important Farmland Data. Accessed on September 5, 2012 [ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/](http://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/).

# Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>3. AIR QUALITY</b>				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
<b>Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Explanation:

**a-d. Less than Significant Impact.** The proposed project’s construction activities would generally use hand tools, welding equipment and cutting equipment, which would not generate emissions of criteria air pollutants. Minimal earth movement would occur and dust emissions are expected to be minimal since no earth moving equipment would be utilized. Additionally, the contractor would comply with Rule 403 of the South Coast Air Quality Management District (SCAQMD), to ensure that there are no visible emissions of fugitive dust.<sup>3</sup> The project would also utilize portable combustion equipment listed below. The construction equipment would operate on an as-needed basis and would not be in use during the entire work day since some of the construction activities only allow the use of hand tools. In order to move heavier supplies and materials up to parts of the pipeline higher on the ridge, a helicopter may be used in the transportation, for a maximum of ten trips, if determined needed. Average daily emissions would consist of the few pieces of equipment listed below, equipment and material delivery which would result in a maximum of three truck trips per day, up to 25 worker round trips to the construction site per day, and use of a helicopter, if it occurs. Use of the helicopter would be limited to transport of equipment to the project site from the National Helicopter Service and Engineering Company site in Van Nuys, CA, approximately 40 miles one way from the project site, and deliveries would occur during the hours of 7:00am and

<sup>3</sup> South Coast Air Quality Management District, Rule 403 – Fugitive Dust as Amended June 3, 2005, Accessed August 22, 2012, <http://www.arb.ca.gov/DRDB/SC/CURHTML/R403.PDF>.

5:00pm as designated for construction-related activities in the City of Azusa Municipal Code. Therefore, daily emissions from project sources during construction are not anticipated to exceed SCAQMD thresholds. Combustion equipment may include but not be limited to:

- Two to three 150hp Portable Air Compressors
- Three to four 20hp Portable Generators
- Two to three 150hp Portable Welding Machines

The nearest sensitive receptors are residences, located approximately 500 feet from the construction site. Project emissions would not exceed SCAQMD thresholds of significance and would deplete substantially at this distance from the sources.<sup>4</sup> Additionally, project construction activities would be required to comply with all applicable SCAQMD rules and regulations to minimize emissions. Construction equipment would be maintained in proper tune per manufacturer specifications and would be shut off when not in use. There would not be a significant increase in any criteria pollution, and daily emissions would not exceed SCAQMD standards, nor would it expose sensitive receptors to substantial pollutant concentrations. Additionally, the project would not generate any long-term operational emissions after construction activities are completed. Thus, impacts to air quality would be less than significant.

- e. **Less Than Significant Impact.** The proposed project consists of structural upgrades to existing pipelines which may include the use of paints, sealants and other odor producing materials or processes. The nearest sensitive receptors are residences, located approximately 500 feet from the construction site. Construction odors at this distance, if perceptible, would be limited in duration and minimal and would dissipate substantially beyond the property line. Therefore, impacts would be less than significant.

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<sup>4</sup> South Coast Air Quality Management District, Localized Significance Thresholds, Accessed August 22, 2012, <http://aqmd.gov/ceqa/handbook/LST/LST.html>.

# Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>4. BIOLOGICAL RESOURCES—Would the project:</b>				
a) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The information in this section is based on the *Biological Technical Report for the City of Pasadena, Azusa Hydroelectric Pipeline Seismic Retrofit Project Los Angeles County, California, December 2011* and the *Results of the Focused Plant Survey Conducted for the Azusa Hydroelectric Pipeline Seismic Retrofit Project, July 5, 2012*. These reports can be found in Appendix A of this document.

**a. Less than Significant Impact with Mitigation Incorporated.** A majority of the project area (82 percent) is comprised of disturbed or developed areas and ornamental landscaping. The remaining 18 percent is comprised of coastal sage scrub, disturbed coastal sage scrub, and laurel sumac scrub vegetation communities. Qualified biologists conducted a reconnaissance level survey of the project site in December 2011, and a focused rare plant survey was conducted in July 2012. The field studies were performed along with a literature review to identify sensitive or rare wildlife or plant species, or



natural communities that are known to occur in the vicinity of the project area and are afforded special-status or protection by governmental regulations on local, state and federal levels.

A query of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants online database yielded a list of 47 federal and state listed threatened or endangered, rare, or sensitive plant species that have been documented to occur within the vicinity of the project site. A full list of these species can be found in Appendix A, Biological Survey. The federal and state listed threatened or endangered plant species with a potential to occur on the project site include: Braunton's milk-vetch (*Astragalus brauntonii*), Nevin's barberry (*Berberis nevinii*), and San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*).

Focused rare plant surveys conducted for the Braunton's milk-vetch, Nevin's barberry, and San Fernando Valley spineflower were negative. These species were not observed during the survey, which was conducted during the appropriate blooming period, when each species would be identifiable and conspicuous. Since the Braunton's milk-vetch, Nevin's barberry, and San Fernando Valley spineflower were not observed during the survey, these three species are considered absent from the project site; thus, would not be impacted from the proposed project.

A query of the California Natural Diversity Database (CNDDDB) resulted in a list of 25 federal and state-listed endangered or threatened wildlife species, state wildlife Species of Special Concern (SSC), and otherwise sensitive or rare wildlife species that may potentially occur within the project area. A full list of these species can be found in Appendix A, Biological Survey. Approximately 0.14 acre of low quality, suitable habitat for the federally threatened coastal California gnatcatcher (*Poliophtila californica californica*) exists on the project site. In addition, approximately 0.12 acre of disturbed coastal sage scrub occurs on the Project site. However, no sensitive wildlife species, including coastal California gnatcatcher, were observed during the reconnaissance survey. Nonetheless, temporary construction activities may occur during the breeding season and there is a low potential it may directly or indirectly affect this species. Implementation of Mitigation Measure 4.1 would ensure that this impact remains less than significant.

**Mitigation Measure 4.1:** To minimize any potential harm to coastal California gnatcatcher, in the unlikely event it is found to be present, any vegetation removal shall be done outside the nesting season (February 15 to August 31). If vegetation removal or ground-disturbing activities occur within the nesting season, a nesting bird survey shall be conducted prior to construction activities to identify any potential nests on or within 300 feet of the project boundaries. Prior to commencement of construction activities, a qualified biologist shall perform a preconstruction survey to determine whether nests are present in or around the proposed project area. If a nest is found, an appropriate buffer shall be established by the qualified biologist. No construction or other activities shall be allowed to occur within the buffer until the young have fledged or the nest becomes inactive.

- b-c. Less than Significant Impact with Mitigation Incorporated.** A total of four potential jurisdictional features were observed within or directly adjacent to the project site; including a man-made swale, an ephemeral drainage and two man-made storage pools. Riparian vegetation or wetlands were not associated with these drainage features. The

man-made swale is located along the east boundary for the laydown area, and diverts storm water away from the existing facilities on the project site. The ephemeral drainage is located in between the two pipelines (outside of the project site area), and conveys storm water immediately following large rain events. One of the man-made pools is located adjacent to the Penstock in the southeast corner of the site; the second is located within the existing facilities in between the staging area and the Spillway Bypass pipeline in the northern portion of the site. The proposed project would avoid direct impacts to all of these drainage features. Implementation of Mitigation Measure 4.2 is recommended to prohibit access to these drainage features.

**Mitigation Measure 4.2:** Water features on the site shall be clearly identified and access shall be prohibited as signified by exclusionary fencing by construction workers and any unauthorized personnel for the duration of construction.

- d. No Impact.** The proposed project would seismically retrofit two existing pipelines atop two ridges. The project site does not support movement of native resident or migratory fish and is unsuitable for wildlife species as a wildlife corridor or crossing, as it is located on steep slopes and a ridge top that leads into a hydroelectric plant. Therefore, the project would not conflict with movement of native resident or migratory fish or wildlife species, and no impacts would occur.
- e. No Impact.** There are no trees located within the project site area of construction activity, and the proposed project would not remove trees. The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. No Impact.** No habitat conservation plan, natural community conservation plan, or other approved habitat conservation plan has been adopted to include the project site. Therefore, the project would not conflict with any habitat conservation plan or natural community conservation plan, and no impacts would occur.

# Cultural Resources

<i>Issues:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>5. CULTURAL RESOURCES - Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The information in this section is based on the *Cultural Resources Report for the City of Pasadena, Azusa Hydroelectric Pipeline Seismic Retrofit Project Los Angeles County, California, September 2012*. This report can be found in Appendix B of this document.

**a. Less than Significant Impact with Mitigation Incorporated.** A records search at the South Central Coastal Information Center, Native American correspondence, and a pedestrian cultural resources survey were performed to evaluate project activities (Strauss et al., 2012). The records search report identified twelve previously conducted cultural resource investigations within ½ mile of the project area. One of these investigations included a portion of the project site. From the previous investigations a total of four cultural resource sites have been recorded within ½ mile of the project area. All four are historic built environment resources (Covina Canal, Glendora Ridge Motorway, Azusa Conduit, and a ca. 1930s craftsman style residence). One of these resources, the Azusa Conduit identified as resource P-19-188902, is located in the project area and has the potential to be impacted by the project.

A Sacred Lands File Search for the project performed by the NAHC on July 10, 2012 failed to indicate the presence of Native American cultural resources within ½ mile of the project area. However, the NAHC cautioned that there are Native American cultural resources in close proximity to the project area, although no specific location information was provided. Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the project area to solicit information on the whereabouts of resources in the project vicinity. To date, one response has been received, from Andy Salas of the Gabrielino Band of Mission Indians. Mr. Salas stated that the project area was located in the Gabrielino village of Azusangna and was considered a highly culturally sensitive area. Mr. Salas requested that a Native American monitor be on site during ground disturbing activities.

Four historic-period resources were identified in the project area as a result of field survey: three features associated with the previously recorded Azusa Conduit (P-19-188902), which includes the Spillway Bypass and Penstock Pipelines, and a newly

recorded mid-century corrugated metal storage shed (temporarily designated ESA-AZU-3). The Covina Canal (P-19-002777) was also relocated adjacent to the north of the project area. Surveyors also identified a new resource outside of the project area, described as a historic landscape (ESA-AZS-4), possibly associated with the period of the original hydroelectric plant (circa 1898).

### ***Resources located within the project area***

The Azusa Conduit identified as resource P-19-188902, is part of the project infrastructure that consists of a 5.8-mile long tunnel and box culvert located in the San Gabriel Mountains that conveys water from the San Gabriel Dam through the project area to the Azusa Hydroelectric Power Plant. Much of the conduit was completed in the 1890s, including a portion that was later replaced in 1948 by the Penstock Pipeline.

The Azusa Conduit was previously evaluated and recommended eligible for the National Register and California Register at the regional level for its associations with early hydroelectric power development and hydroelectric pioneers William G. Kerckhoff, Henry O'Melveny, and Allan C. Balch. The success these three men and their associates had with construction of the Azusa Conduit and the related Azusa Hydroelectric power plant was the first step in development of hydroelectric power throughout Southern California. Three water-conveyance facilities related to the Azusa Conduit (P-19-188902) were recorded within the project area. These consist of a segment of the original 1898 riveted steel Penstock, the 1948 Penstock Pipeline, and the 1939 Spillway Bypass Pipeline, which date to the period of significance and contribute to the resource's eligibility for the National Register and California Register. The 1898 riveted steel Penstock pipe segment is not included in the project.

The proposed project would implement structural modifications to the 1948 Penstock and 1939 Bypass Pipeline, which would consist largely of improvements to support structures that would not materially impair the significance of the Azusa Conduit, nor would it alter qualities that make the resource eligible for listing in the National Register and California Register. The proposed project would not affect the resource's integrity of location, design, setting, materials, workmanship, feeling, or association. However, Mitigation Measures 5.1 and 5.2 are provided to ensure that potential impacts to the historic resources are avoided.

In addition resource ESA-AZS-3 is located within the project area. This resource consists of a single story, rectangular structure with a side gable roof. Based on the post-WWII period construction style and because the storage shed first appears on historic aerials dating to 1954, it is presumed that it was constructed concurrent with the construction of the new powerhouse in 1949. Resource ESA-AZS-3 does not appear to be eligible for listing in the California Register and does not constitute a historical resource under CEQA.

### ***Resources located adjacent to the project area***

The Covina Canal (P-19-002777) is a 5.5-mile long concrete irrigation canal, averaging four feet deep and four to eight feet wide, and is located adjacent to the north of the project area. Construction of the Covina Canal was completed in 1884 to improve water services in the Azusa, Glendora, and Covina area by bringing water from the San Gabriel

River. Although previously recorded in 1999, the Covina Canal has not been previously evaluated for its significance under either the National or California Registers.

A newly recorded resource ESA-AZS-4 that was identified in the Cultural Resources Report for the project (Appendix B), is a historic landscape, possibly associated with the period of the original hydroelectric plant, located adjacent to the project area. The landscape includes a series of masonry cobble retaining walls, a cobble-lined well or cistern, a wooden bridge with “no trespassing” sign, and rock-lined pathways/roadways. A review of historic topographic maps implies that this landscape may have been the site of the original Azusa hydroelectric plant (constructed circa 1898) or associated structures that were demolished after operation of the replacement plant in 1949.

Neither the Covina Canal, nor ESA-AZS-4 are located in the project area and are not anticipated to be impacted by the proposed project. However, Mitigation Measures 5.1 and 5.2 have been included to ensure that potential impacts to these resources are avoided.

**Mitigation Measure 5.1:** Prior to the initiation of project activities onsite, a qualified archaeologist meeting the Secretary of the Interior’s qualifications standards for archaeology shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed as to areas to be avoided (Covina Canal, 1898 riveted steel penstock pipe related to the Azusa Conduit, and ESA-AZS-4). Construction personnel shall also be informed of the proper procedures to be enacted in the event of an inadvertent archaeological discovery (See Mitigation Measure 5.3). Construction personnel shall complete a sign-in sheet to verify their participation in the cultural resources sensitivity training; this sheet shall be submitted to the Zoning Administrator as proof that the training has been completed.

**Mitigation Measure 5.2:** Prior to the initiation of construction or ground disturbing activities, a temporary impenetrable, highly visible protective covering shall be placed and secured around the 1898 riveted steel Azusa Conduit pipeline where it is located adjacent to the construction work areas, for the purpose of preventing inadvertent impacts to the resource during the construction period. The protective covering shall have a low profile so as to not impede with construction activities or create an obstruction to onsite workers. Similarly, temporary fencing shall be installed at any access points to the area of the Covina Canal and ESA-AZS-4 for the purpose of preventing inadvertent access or impacts to these resources during the construction period. The impenetrable covering and temporary fencing shall be removed following the completion of construction.

- b. Less than Significant Impact with Mitigation Incorporated.** The identified historic and archaeological resources within and near the project site are described above in response 5.a. Because the project will not involve ground disturbing construction activities other than clearing debris from pipeline supports, the possibility of encountering previously undiscovered resources is unlikely. However, implementation of Mitigation Measure 5.3 would ensure that potential impacts to any unknown archaeological resources are less than significant.

**Mitigation Measure 5.3:** Any accidental discovery of cultural resources during construction shall be evaluated by a qualified archaeologist, defined as one meeting

the Secretary of the Interior's Professional Qualification Standards for archaeology. If the find is determined to be potentially significant, the archaeologist, in consultation with the lead agency and appropriate Native American group(s) shall develop a treatment plan. All work in the immediate vicinity of the unanticipated discovery shall cease until the qualified archaeologist has evaluated the discovery, or until the treatment plan has been implemented, if appropriate.

- c. **Less than Significant with Mitigation Incorporated.** The Cultural Resources Report for the project (Appendix B) did not identify any paleontological resources within the project site or in the surrounding area. Clearing debris from pipeline supports will be conducted using hand tools due to the steepness of the construction area which prevents the use of heavy machinery. It is highly unlikely any paleontological remains will be uncovered during construction, as depths reached by hand tools will not extend low enough to reach any potential subsurface resources. However, implementation of Mitigation Measure 5.4 would ensure that potential impacts to any unknown paleontological resources are less than significant.

**Mitigation Measure 5.4:** Any accidental discovery of paleontological resources during construction shall be evaluated by a qualified paleontologist. If the find is determined to be potentially significant, the paleontologist, in consultation with the City of Pasadena shall develop a treatment plan. All work in the immediate vicinity of the unanticipated discovery shall cease until the qualified paleontologist has evaluated the discovery, or until the treatment plan has been implemented, if appropriate.

- d. **Less than Significant Impact with Mitigation Incorporated.** The project site has long been used for hydroelectric plant facilities and no known human remains exist at the site. The proposed project would not disturb known human remains. However, because the proposed project would involve ground-disturbing activities, however minimal, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. With the incorporation of Mitigation Measure 5.5, which requires compliance with State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, any project-related impacts to human remains would ensure that any potential impacts remain less than significant.

**Mitigation Measure 5.5:** In the event that previously unknown human remains are uncovered during project excavation, those remains shall be treated in accordance with State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, as required by California state law. State Health and Safety Code Section 7050.5 requires that no further disturbance shall 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. The Native American Heritage Commission shall then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased individual(s), who will then help determine the future disposition of the remains. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity (defined according to generally accepted cultural or archaeological standards or practices) around where the human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD(s) regarding their recommendations, taking into account the possibility of multiple human remains.

# Geology and Soils

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>6. GEOLOGY AND SOILS—Would the project:</b>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

- a.i. Less than Significant Impact.** The Alquist Priolo Act requires the California State Geologist to map areas that are at risk from surface fault rupture. These areas are known as Earthquake Fault Zones, which are mapped active faults that could constitute a hazard to structures. As indicated by the Department of Conservation, the site is not located within a mapped Alquist Priolo Earthquake Fault Zone.<sup>5</sup> The nearest Alquist Priolo fault

<sup>5</sup> California Department of Conservation, Alquist-Priolo Earthquake Fault Zone Map, Accessed on August 22, 2012, [http://www.quake.ca.gov/gmaps/ap/ap\\_maps.htm](http://www.quake.ca.gov/gmaps/ap/ap_maps.htm) .

zones to the project site include the Raymond Fault zone (11 miles distant), Whittier Fault zone (19 miles distant), and the San Andreas fault (33 miles distant).

However, a (non-Alquist Priolo mapped) segment of the Sierra Madre Fault Zone is adjacent to the eastern tip of the Penstock. Although no recorded earthquakes have occurred on this segment, recent earthquakes have occurred nearby. The Sawpit Canyon fault (part of the Sierra Madre Fault Zone), is located four miles northwest from the site and last ruptured in 1991.<sup>6</sup>

The purpose of the proposed project is to improve existing conditions of pipeline facilities that are currently at risk due to seismic fault rupture. The proposed project would increase the stability of the pipelines and protect against future ground movement, and would not include new structures or habitable dwellings that would expose people or structures to risk of a rupture of an earthquake fault. As such, project construction constitutes a structural improvement based on existing conditions and would therefore increase the reliability of both pipelines to withstand a fault rupture.

A geotechnical investigation was completed by G&E Engineering Systems, Inc. in 2009 to address the seismic hazards of the project site and introduce appropriate recommendations. Recommendations from that report have been incorporated into the project design to ensure the proposed seismic retrofit upgrades would be constructed to minimize future risk of fault rupture. In addition, the project would be required to comply with California Building Code (CBC) standards in the design and construction of the project to minimize potential impacts to fault ruptures. As a result, impacts related to rupture of a known earthquake fault would be less than significant.

**a.ii. Less than Significant Impact.** The project site is not located within or adjacent to an Alquist-Priolo fault zone. The closest Alquist-Priolo fault zones to the project include the Raymond Fault zone (11 miles distant), Whittier Fault zone (19 miles distant), and the San Andreas fault (33 miles distant). Because the project is located within a seismically active region, the project site is likely to experience strong ground shaking during the lifespan of the proposed project. Earthquake intensities experienced at the project site would vary depending upon the earthquake's magnitudes, distance between the project site and the fault, and the types of materials underlying the project site.

As described previously, the proposed project is a structural upgrade to the existing pipelines that is intended to enhance the resistance to seismic damage and prevent failure during a seismic event, including earthquakes and ground shaking. The proposed project would increase the stability of both pipelines and protect against future ground movement, and would not include new structures or habitable dwellings that would expose people or structures to risk. As such, project construction constitutes a structural improvement from existing conditions and would not increase risks due to seismic ground shaking. Additionally, all infrastructure improvements must comply with the seismic design parameters contained in the CBC seismic requirements. Compliance with the CBC standards in the design and construction of the project would ensure that potential impacts related to strong seismic ground shaking would be less than significant.

**a.iii. No Impact.** Soil liquefaction is a phenomenon in which saturated, cohesionless soils layers, located within approximately 50 feet of the ground surface, lose strength due to

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<sup>6</sup> Southern California Earthquake Data Center, Accessed on August 22, 2012, <http://www.data.scec.org/significant/sierramadre.html>.



cyclic pore water pressure generation from seismic shaking or other large cyclic loading. During the loss of stress, the soil acquires ‘mobility’ sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, saturated, and uniformly graded fine grained sands that lie below the groundwater table within approximately 50 feet below ground surface.

According to the California Department of Conservation Geological Survey Seismic Hazards Zone Map for the Azusa Quadrangle<sup>7</sup>, the project site is not located within a liquefaction area where historic occurrence of liquefaction or local geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacements.

- a.iv. Less than Significant Impact.** Landslides and other slope failures are secondary seismic effects that are common during or soon after earthquakes. Areas that are most susceptible to earthquake induced landslides are steep slopes underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. The project site is located on a hillside with substantial slopes. The Seismic Hazards Zone Map for the Azusa Quadrangle shows that the project site is located within an earthquake induced landslide area.

The existing aged infrastructure shows damage and wear due to historical landslide and slope movement activity. The proposed project would improve this existing condition and provide structural upgrades to prevent seismic related damage, including damage from landslides. In addition, substantial earth moving activity is not included in the proposed project, which limits the potential for a landslide event during construction. The proposed project would be implemented in compliance with CBC standards and potential impacts involving landslides would be less than significant.

- b. Less than Significant Impact.** Construction of the proposed project would include minimal ground surface disruption that could result in soil erosion. The proposed project does not involve excavation of soils. Soil activities are limited to removal of debris around rocker supports that have become buried, and infill of soil eroded areas of the existing supports with concrete and controlled density fill. The proposed project would consist of measures to enhance the stability of the existing pipelines, and would not contribute to soil erosion or loss of topsoil.

The proposed project would implement BMPs in order to protect water quality during construction. Implementation of BMPs in order to protect water quality during construction would ensure that no substantial adverse construction related erosion impacts would occur, and impacts would be less than significant.

- c. Less than Significant Impact.** The project site is located on a hillside with a substantial slope and has a potential to be affected by an earthquake induced landslide as identified by the Azusa Quadrangle Seismic Hazard Zone Map. However, the proposed project would improve the existing condition by providing structural upgrades. These proposed seismic upgrades would not further slope instability due to project construction, and would further decrease potential hazards from landslide events in the future. As a result, impacts would be less than significant.

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<sup>7</sup> State of California Seismic Hazard Zones, Azusa Quadrangle, March 24, 1999.

The project site is not located within an area subject to subsidence. Subsidence usually occurs as a result of excessive groundwater pumping or oil extraction. The project would improve the existing pipeline facilities and would not involve groundwater pumping or oil extraction. Therefore, impacts related to subsidence would not result from implementation of the proposed project.

- d. Less than Significant Impact.** Expansive soils are fine grained soils that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of an expansive soil can result in severe distress to structures constructed upon the soil.

The project is located on a rocky hillside with typical erosive soils, and erosion has occurred in the past at the site. As shown on the Geologic Map of the San Bernardino 30x60 Degree Quadrangle<sup>8</sup>, the project site is underlain by Young alluvial fan, Unit 5 (Qyf), which is late Holocene soils that consist of unconsolidated, gravelly, sandy, or silty alluvial fan deposits. Layers of clay and other expansive soils could exist within the young alluvial soils.

As described previously, the intent of the project is to provide structural upgrades to the aged pipelines and to prevent damage related to geologic issues, including expansive soils. Construction would not consist of surface earth moving activities, except to remove debris from around pipeline support structures, which would be achieved with the use of hand tools. Changes to water content of the soil material are not expected as part of construction. In addition, the project would be implemented in compliance with CBC standards. Therefore, impacts related to expansive soils would be less than significant.

- e. No Impact.** The proposed project does not involve the use of septic tanks or alternative wastewater disposal systems. As a result no impacts would occur and no mitigation measures are required.

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<sup>8</sup> U.S. Geologic Survey Open-File Report 03-293, Preliminary geologic map of the San Bernardino 30' x 60' quadrangle, California, Accessed August 21, 2012, <http://pubs.usgs.gov/of/2003/of03-293/>.

# Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>7. GREENHOUSE GAS EMISSIONS-Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

- a. Less than Significant Impact.** Greenhouse gas (GHG) impacts are considered exclusively cumulative impacts. Greenhouse gasses include and are not limited to CO<sub>2</sub>, CO, NO<sub>x</sub>, hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF<sub>6</sub>). As discussed in Section 3.a, Air Quality, the proposed project would result in less than significant emissions from construction equipment and vehicles since no large earth moving equipment would be utilized. A helicopter may be used for construction related activities a maximum of 10 times within the six month construction period, and would not contribute to significant emissions. In addition, the proposed project would not add any new stationary sources of emissions. The project would not increase the numbers of employees to service the site on an operational basis. Therefore, impacts regarding the generation of GHG emissions would be less than significant.
- b. No Impact.** The proposed project would not increase emissions of GHGs and is not anticipated to conflict with applicable GHG plans, policies, or regulations. State of California Assembly Bill 32 (AB 32) requires that the California Air Resource Board (CARB), in coordination with State agencies, adopt regulations to require the reporting and verification of statewide GHG emissions and monitor and enforce compliance with the program.<sup>9</sup> State of California Senate Bill 375 (SB 375) requires the reduction of GHG emissions by discouraging sprawl development and dependence on car travel.<sup>10</sup> SB 375 assists in the implementation of AB 32 by integrating land use, regional transportation, and house planning. The proposed project consists of a seismic retrofit of the existing Penstock and Spillway Bypass Pipelines used by the existing hydroelectric plant. The seismic upgrades would not expand the existing footprint of the hydroelectric facility or capacity of the pipelines, nor would it increase the generational capacity of the facility or water used to run the generator. Operation of the proposed project would not generate GHG emissions. The proposed project would not conflict with AB 32 or SB 375 and no impacts would occur.

<sup>9</sup> California Global Warming Solutions Act of 2006 (Assembly Bill 32).

<sup>10</sup> Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375).

# Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>8. HAZARDS AND HAZARDOUS MATERIALS - Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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 it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Explanation:

**a-b. Less than Significant Impact.** The proposed project would not transport, use or dispose of significant amounts of hazardous materials. The proposed project would include use of minimal quantities of paints to cover the pipes, and sealants to reseal joints, which could be hazardous in large quantities. Work on the pipelines would be performed by manual labor, which would limit the need for fuel onsite, however; combustion engine generators would be used, as needed to power tools and equipment. Overall, the project's use of hazardous materials would be short-term and in minimal quantities. Additionally, the use of hazardous materials and substances during construction would be subject to federal,

state, and local health and safety requirements for handling, storage, and disposal. Operation of the upgraded pipelines would not involve the use of hazardous materials. As a result, hazards to the public or the environment by transport, use, disposal, or accident conditions of hazardous materials would be less than significant.

- c. No Impact.** There are no proposed or existing schools located within a one-quarter mile radius of the project site. Additionally, the project's use of hazardous materials would be short-term and in minimal quantities. Construction workers would be required to comply with federal, state, and local rules and regulations for hazardous materials. Thus, project impacts related to hazardous materials and school facilities would not occur.
- d. No Impact.** The project site is not listed as a contaminated site and no remediation efforts have been identified or deemed necessary.<sup>11</sup> The project site has historically been used for the pipeline facilities for the hydroelectric plant, and there are no known occurrences related to hazardous waste or materials storage. Thus, the project would not expose people or the environment to existing hazardous materials, and impacts would not occur.
- e-f. No Impact.** The project site is not located within two miles of any public or private airstrip. The nearest airports are the El Monte Airport, located nine miles southwest of the site, and Brackett Field, located eight miles southeast of the site. No airport land use plan applies to the site, and the proposed project would not create an airport related safety hazard for people residing or working in the project area.
- g. No Impact.** The proposed project would not affect existing roadways or emergency evacuation routes. The project is located on a hillside adjacent to the existing hydroelectric plant. Furthermore, the project would be required to comply with (and not interfere with) any applicable, adopted city, state or federal emergency response plans or emergency evacuation plans. All project emergency procedures would be implemented consistent with local, state and federal guidelines. No impact to emergency plans would occur.
- h. Less than Significant Impact.** Due to the proximity to the San Gabriel Mountains and wildland areas, the project site is exposed to wildfire threats. The City of Azusa's General Plan identifies the project site as a moderate to high risk fire-hazard area.<sup>12</sup> The nearest fire station is the Azusa Fire Department station, located 1.6 miles south of the project site. The project would improve the existing pipeline infrastructure onsite and not create habitable structures. Construction activities would be limited to areas adjacent to the existing pipeline and short-term. As a result, the proposed project would not increase the potential for wildfires or expose people to wildfire dangers. Impacts would be less than significant.

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<sup>11</sup> Department of Toxic Substances Control, EnviroStor, Accessed on August 22, 2012, <http://www.envirostor.dtsc.ca.gov/public/>.

<sup>12</sup> City of Azusa General Plan, Fire Hazard Areas, Figure 4.7-2.

# Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>9. HYDROLOGY AND WATER QUALITY— Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or dam inundation area as shown in the City of Pasadena adopted Safety Element of the General Plan or other flood or inundation delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Explanation:

- a. **Less than Significant Impact.** Soil activities of the project are limited to removal of debris around rocker supports that have become buried, and infill of eroded areas by

existing supports soil. Construction of the proposed project would not modify existing landforms and is not expected to result in changes to stormwater runoff patterns and volumes. Although the San Gabriel River is located 0.3 mile north of the site, it would not be directly impacted by the project. Construction of the proposed project is under 1 acre and would not require preparation of a SWPPP for the construction phase of the project in accordance with the NPDES Construction General Permit for Storm Water Discharges. However, the proposed project would implement BMPs in order to protect water quality during construction. Implementation of BMPs in order to protect water quality during construction would ensure that no substantial adverse impacts would occur. Impacts would be less than significant.

- b. No Impact.** The proposed project is limited to improvements to the existing pipeline facilities. The project would not expand the existing facility or otherwise increase impervious surfaces. In addition, the project would not change capacity of the pipelines and would not require expanded uses of existing water supplies. Thus, the proposed project would have no impact on groundwater supplies or groundwater recharge. Furthermore, the project would not result in a net deficit in aquifer volume or a lowering of the local groundwater table level.
- c. Less than Significant Impact.** The proposed project is limited to improvements to the existing pipeline facilities that would not expand impervious surfaces. The topography of the project site is steep and ranges from 750 and 1,100 feet above mean sea level (amsl). The pipelines sit on steep ridges, with a depressed valley between, which is a natural drainage channel. The proposed infrastructure improvements would not alter the existing topography, and would not alter the natural drainage pattern of the site or the surrounding area. Construction of the proposed project would include minimal ground surface disruption. Soil activities are limited to removal of debris around rocker supports that have become buried, and infill of eroded areas by existing supports with concrete and controlled density fill. The proposed project would adhere to all county regulations and implement BMPs and other measures to ensure that construction does not result in erosion impacts. Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area and substantial erosion or siltation would not occur. Impacts would be less than significant.
- d. No Impact.** The project is limited to improvements to the existing pipeline facilities and would not expand impervious surfaces. The proposed project would not alter the existing natural drainage pattern of the site and would not alter the course of a stream or river, including the San Gabriel River. In no other way would the project increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The proposed project would have no impacts related to flooding hazards.
- e. Less than Significant Impact.** The proposed project would not increase impervious surfaces, would not generate additional runoff, and would not change the course of storm water runoff. As a result, the proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems.

Soil activities are limited to removal of debris around rocker supports and infill of eroded areas with concrete and controlled density fill, and the use of hazardous materials during construction would be minimal. The proposed project would adhere to all county regulations and implement BMPs and other measures to ensure that construction does not

result in soil erosion or provide additional sources of pollution in runoff. As a result, impacts would be less than significant.

- f. **Less than Significant Impact.** As described above, the project is limited to improvements to existing pipeline facilities that would utilize limited amounts of potential pollutants, and would not generate additional erosion or storm water runoff. With the implementation of water quality BMPs, as described in impact 9.a., the proposed project would not substantially degrade water quality. Therefore, impacts would be less than significant.
- g. **No Impact.** The proposed project is limited to improvements to an existing pipeline facility and does not involve housing. In addition, the project site is located on a steep hillside and ridge, and not located within a FEMA 100-year or 500-year flood zone.<sup>13</sup> Therefore, impacts to housing within a flood zone would not occur.
- h. **No Impact.** The project site is located on a steep hillside and ridge and is not located within a 100-year flood hazard zone. Storm water flows currently run down the hillside, alongside and parallel to the existing pipelines. The project would improve the existing pipeline facilities and would not add structures that could redirect flood flows. Therefore, project impacts related to flooding and redirecting of flood flows would not occur.
- i. **No Impact.** Flooding can occur when nearby water retaining structures, such as dams or storage tanks, are breached or damaged during an earthquake or due to failure. The nearest dam to the project site is the Morris Dam, located approximately three miles northeast of the project.<sup>14</sup> However, the project site is located on a steep hillside and ridge, and it is not located within an inundation area. As a result, the project would not expose people or structures to a significant risk of loss, injury or death involving flooding from failure of a levee, dam, or other water retaining structures.
- j. **Less than Significant Impact.** Tsunamis are usually caused by displacement of the ocean floor causing large waves and are typically generated by seismic activity. Tsunami hazard is not present for the project site due to the distance from the ocean and its high elevation. A seiche is a standing wave in an enclosed or partly enclosed body of water. Seiches are normally caused by earthquake activity, and can affect harbors, bays, lakes, rivers, and canals. These bodies of water are all absent from the project area. The nearest seiche hazard is the Morris Dam, which is three miles northwest from the site, and too far to result in a seiche impact.

Lastly, mudflow is a mixture of soil and water that runs like a river of mud down a hillside and is usually generated by heavy rainfall. As described in response 9.c., the pipelines are located on steep hillsides and ridges that drain to a valley below. If a mudflow on the project hillside were to occur, flows would likely run alongside and parallel to the existing pipelines. The intent of the project is to improve the structural components of the existing facilities, and the project would enhance resistance to damage from natural events, such as mud flows. Therefore, potential impacts associated with mudflows would be less than significant.

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<sup>13</sup> Los Angeles County Flood Zone Map, Accessed on August 22, 2012, <http://dpw.lacounty.gov/wmd/floodzone/>.

<sup>14</sup> City of Azusa, General Plan and Development Code Draft EIR, 2003.



# Land Use and Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>10. LAND USE AND PLANNING—Would the project:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:**

- a. **No Impact.** The project is located in the northern portion of the City of Azusa, land uses adjacent to the project area (and outside of the hydroelectric plant) consist of open space and residential. The nearest residential community to the project site is a community of homes located approximately 500 feet west and south. Open space hillside areas are located to the east. The project does not involve changes to existing land uses. The project would be limited to upgrading existing pipeline facilities and would not add buildings or any elements which could conflict with uses of the area or otherwise divide an established community. Furthermore, the existing residential community, located to the west and south of the project area would not be physically divided by the proposed project. Therefore, impacts related to division of an established community would not occur.
- b. **No Impact.** The proposed site is designated as Open Space in the City of Azusa’s General Plan and Open Space in the Zoning Code.<sup>15</sup> As described in response 10.a, land uses in the project area (outside of the hydroelectric plant) are open space and residential. The project consists of a structural upgrade to existing pipeline facilities, and would not change the existing land use of the area, or introduce a use that is not consistent with the existing land use and zoning designations of the project site. Thus, the project would not conflict with the applicable land use and zoning regulations. As a result, no impacts to any land use plans, policies, or zoning ordinance would occur from implementation of the project.
- c. **No Impact.** The proposed project is located in an open space area adjacent to the San Gabriel Mountains in the City of Azusa. There are no habitat conservation plans or natural community conservation plans that apply to the site. Thus, impacts to habitat planning documents would not occur.

<sup>15</sup> City of Azusa Planning Department, Zoning Map, March 28, 2012.

# Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>11. MINERAL RESOURCES—Would the project:</b>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:**

**a-b. No Impact.** The City of Azusa lies within the San Gabriel Fan District, which is a designated aggregate production zone.<sup>16</sup> The nearest minerals zone is the Vulcan Materials Azusa Rock Mine, located three miles northeast of the project, on the other side of the existing residential community. The project site does not have a history of mineral excavation and no resources have been identified onsite. Given the steep topography and mountainous habitat, mineral excavation in the future is highly unlikely. The site has historically been used for the sitting of the existing hydroelectric pipelines. The proposed project would consist of a structural upgrade of existing infrastructure, and would not introduce any new structures that may contribute to a loss of an unknown mineral resource. As a result, implementation of the proposed project is anticipated to have no impact on mineral resources.

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<sup>16</sup> City of Azusa, General Plan and Development Code Draft EIR, 2003, p. 4.10-1.

# Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>12. NOISE—Would the project result in:</b>				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

- a. **Less than Significant Impact.** The proposed project is located adjacent to the hydroelectric plant facilities, open space, and nearby residential uses to the south and west. Typical noises in the project area include residential traffic, and plant operation noise. The City of Azusa establishes noise standards for the project area in the General Plan and in the City of Azusa Municipal Code Noise Ordinance.<sup>17,18</sup> The proposed project would improve existing pipeline facilities, operation of which, would not introduce any new noise, but would generate noise from the short-term construction activities.

Construction related noise would be generated from equipment, vehicles, and personnel on the project site. The City of Azusa’s Noise Ordinance<sup>19</sup> limits construction noise to certain hours of the day, and is not regulated by noise level. Allowable construction hours include:

<sup>17</sup> City of Azusa, General Plan, Chapter 5: Natural Environment, Noise, p. 5-64 to 5-73.

<sup>18</sup> City of Azusa, Municipal Code, Chapter 46, Article IX, Division 2: Noise Standards, Accessed August 22, 2012, [http://search.municode.com/html/10418/level4/MUCO\\_CH46OFMIPR\\_ARTIXOFAGPUPE\\_DIV2NOST.html](http://search.municode.com/html/10418/level4/MUCO_CH46OFMIPR_ARTIXOFAGPUPE_DIV2NOST.html).

<sup>19</sup> City of Azusa, Municipal Code, Chapter 46, Article IX, Division 2: Noise Standards, Accessed August 22, 2012, [http://search.municode.com/html/10418/level4/MUCO\\_CH46OFMIPR\\_ARTIXOFAGPUPE\\_DIV2NOST.html](http://search.municode.com/html/10418/level4/MUCO_CH46OFMIPR_ARTIXOFAGPUPE_DIV2NOST.html).

- Monday through Saturday: 7:00 am to 6:00 pm. Extended construction hours may only be allowed by the review authority through conditions of approval between 6:00 pm and 10:00 pm.
- Sunday and National Holidays: Construction activities may only be allowed by the review authority through conditions of approval between 9:00 am and 5:00 pm.

The proposed project would be constructed during the hours of 7:00 am to 5:00 pm, on Monday through Fridays, and would be in compliance with the City's noise ordinance. Additionally, the proposed project's construction activities would generally use hand tools, welding equipment, cutting equipment, and portable combustion engine generators; including:

- Two to three 150hp Portable Air Compressors
- Three to four 20hp Portable Generators
- Two to three 150hp Portable Welding Machines

Each of the combustion equipment listed is expected to generate a maximum noise level of 81 dBA  $L_{eq}$  at 50 feet. Hand tools, welding and cutting equipment is expected to generate less noise than the combustion equipment listed. The nearest residence to the project site is located at approximately 500 feet. Based on the proposed equipment to be used, construction noise level could reach up to 81 dBA  $L_{eq}$  at 50 feet, the nearest residence at 500 feet would experience noise of up to 56 dBA  $L_{eq}$ . Due to the distance between the site and the nearest residence, the construction noise level of 56 dBA  $L_{eq}$  at this nearest sensitive receptor would not be substantial enough to disrupt or otherwise adversely affect the residential use. The project includes potential use of a helicopter for a maximum of ten trips over the six month construction period. The proposed project deliveries via helicopter would occur 390 feet above and 500 feet away from surrounding residential communities. A helicopter appropriate for the deliveries would be an AS355 NP with a twin Arrius 1A1 engine, manufactured by Eurocopter. The maximum weight capacity of the helicopter is 5,723 lbs carrying a load of 2,447 lbs.<sup>20</sup>

Helicopter noise emanates from the engines as well as from the modulation of sound created by the main revolving blade. The maximum sound impacts from helicopter operation occur during a landing event. The International Civil Aviation Organization (ICAO) uses the Effective Perceived Noise Level (EPNL) as the basic metric to assess noise impacts.<sup>21</sup> According to the European Aviation Safety Agency (EASA), the AS355 NP helicopter has both an overflight and approach EPNL that is below agency limits. The overflight EPNL level is 86.7 EPNdb with a limit of 93.2 EPNdb. The approach EPNL is 92.8 EPNdb with a limit of 95.2 EPNdb.<sup>22</sup>

Although the helicopter use would generate short-term noise which may be disruptive, it would be part of construction and limited to use during the City of Azusa approved construction hours. Furthermore, the helicopter trips would be short-term and limited in nature. As a

<sup>20</sup> American Airports Corporation, El Monte Airport, CA, Accessed August 22, 2012, <http://www.americanairports.com/Locations/EMTElMonteAirportCA.aspx>.

<sup>21</sup> International Civil Aviation Organization, Noise Certification Workshop, November 2006.

<sup>22</sup> European Aviation Safety Agency, Type-Certificate Data Sheet for Noise, AS355, August 2007.

result, implementation of the project would not result in generation of noise levels in excess of any established standards, and impacts would be less than significant.

- b. Less than Significant Impact.** Construction of the proposed project would use hand tools, welding equipment, cutting equipment, and portable combustion engine generators, which do not generate groundborne vibration. Compactors of earthmoving equipment that do generate ground vibrations would not be used. As a result of the nature of equipment used, substantial groundborne vibrations would not be generated from the project, and would not expose the residences to the west and south of the site to significant vibration or groundborne noise levels. As a result, project impacts would be less than significant.
- c. No Impact.** The proposed project consists of improvements to the existing pipeline infrastructure that is part of the hydroelectric facility. The project would improve the stability of the existing pipelines, and would not introduce any new uses which would generate noise. Project activities are limited to short-term construction activities. As a result, the proposed project would not result in a permanent increase in ambient noise levels in the project vicinity. Therefore, impacts to ambient noise levels would not occur.
- d. Less than Significant Impact.** The proposed project is located near open space, residential and hydroelectric plant uses. Typical noises in the project area include residential traffic and plant operation noise. The generation of noise associated with the project construction would occur on a temporary basis over approximately six months, during the City of Azusa approved construction hours.

Project construction would not include heavy machinery, instead, hand tools, welding equipment, cutting equipment, and portable combustion engine generators would be used. As described in response 12.a., each of the combustion equipment listed is expected to generate a maximum noise level of 81 dBA  $L_{eq}$  at 50 feet. Hand tools, welding and cutting equipment is expected to generate less noise than the combustion equipment listed. The nearest residence to the project site is located at approximately 500 feet. Based on the proposed equipment to be used, construction noise level could reach up to 81 dBA  $L_{eq}$  at 50 feet, the nearest residence at 500 feet would experience noise of up to 56 dBA  $L_{eq}$ . Due to the distance between the site and the nearest residence, the construction noise level of 56 dBA  $L_{eq}$  at this nearest sensitive receptor would not be substantial enough to disrupt, and would occur within the City of Azusa approved construction hours.

The possible use of a helicopter for a maximum of ten trips throughout the lifetime of the project would also generate short-term noise which may be disruptive. However, given that helicopter trips would occur within the City's allowable construction hours, and the short-term and limited nature of the helicopter use, impacts related to periodic increase in ambient noise levels in the project vicinity would be less than significant.

- e-f. No Impact.** The project site is not located within an airport land use plan, within two miles of a public airport or public use airport, or within the vicinity of a private airstrip. The nearest airports are the El Monte Airport, located nine miles southwest of the site, and Brackett Field, located eight miles southeast of the site. Both airports are located south of the project site, and would not be in the direct flight path of the potential helicopter that may be used to transport materials from the National Helicopter Service and Engineering Company site in Van Nuys to the project site. Therefore, no impacts related to excessive noise near or related to an airport or airfield would occur as a result of project construction.

# Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>13. POPULATION AND HOUSING—Would the project:</b>				
a) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:**

- a. **No Impact.** The project site is located on a steep hillside and ridge in the City of Azusa. The topography of the site is not appropriate for residential uses and the proposed project is a non-residential project. The project is a structural upgrade to existing pipeline facilities that have been operational since the 1930s and 1948. The project would not expand the capacity of the pipelines. Thus, the project would not induce population growth either directly or indirectly. No impacts related to population growth would occur from the project.
- b-c. **No Impact.** The project site is a steep hillside and ridge that has been used for the hydroelectric pipeline facilities since the 1930s and 1948. The areas surrounding the pipeline facilities are vacant, open space, hillside areas. No existing housing or people are located near the pipeline area. In addition, the project consists of improvement and upgrading the existing facilities, and does not include an expanded footprint. As a result, the project would not displace any people or housing, and would not necessitate construction of replacement housing. No impacts related to population and housing would occur from implementation of the project.

# Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>14. PUBLIC SERVICES— Would the project:</b>				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Libraries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vi) Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:**

- a. **No Impact.** The proposed project is a non-residential project and would not generate additional population that may need fire, libraries, parks, police, schools or other public facilities. The proposed project is limited to improving existing pipeline facilities through short-term construction activities. Construction personnel would consist of a maximum of 25 workers that would be onsite Monday through Friday from 7am to 5pm for a period of six months. This short-term construction staffing and activities would not generate a substantial need for police or fire services, and impacts to public service facilities would not occur.

The project is a structural upgrade to an existing pipeline facility, which would not expand the capacity of the pipelines, and would not indirectly induce growth that could result in additional demand for public services. As a result, the project would not result in increased demand for public services or require new or expanded public service facilities. No impacts to public services and public service facilities would occur.

# Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>15. RECREATION:</b>				
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

**a-b. No Impact.** The proposed project is located in the northern portion of the City of Azusa and is near land uses which include open space and residential. The nearest park to the site is Canyon Park, approximately one mile south. The adjacent open space is generally steep terrain abutting residential and industrial uses; as such, this area is not considered recreational open space. The proposed project is a non-residential project that would improve existing hydroelectric pipeline facilities. As described in response 14.a, construction activities would be short-term and involve limited workers. In addition, the improvements to the pipeline would not expand capacity or otherwise lead to indirect growth. Thus, the project would not result in an increased population who would use the existing parks such that physical deterioration of the facilities would occur. Further, the project is limited to improvement of the pipeline and does not include construction of recreational facilities that could impact the environment. Therefore, implementation of the project would not result in recreation related impacts.



# Transportation and Traffic

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>16. TRANSPORTATION AND TRAFFIC—Would the project:</b>				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

- a. Less than Significant Impact.** The proposed project is located in the northern portion of the City of Azusa. Access to the site is provided from I-210, via North Azusa Drive to Ranch Road; conversely from Ranch Road to North San Gabriel Canyon Road to I-210. The proposed project is expected to be in construction for six months from March 2013 through September 2013. A maximum of 25 workers are expected on the site, and traffic generated by construction workers would be a maximum of 25 round trips per day. Construction would also require ten to twenty truck trips to deliver construction materials, and five to ten truck trips to dispose of construction debris over the lifetime of project construction. This would result in a maximum of 3 truck trips per day. Overall construction and worker trips would be a maximum of 28 per day.

Traffic conditions are described by levels of service (LOS), and are ranked from LOS A (best) to LOS F (worst). The LOS is determined by comparing the roadway traffic

volume to the capacity of the roadway to obtain a volume to capacity (V/C) ratio. The capacity of a roadway depends on its function, its design, and the number of lanes. The Mobility Element of the General Plan sets forth performance standards to maintain a Level of Service D on roadway segments and at signalized intersections throughout the City.<sup>23</sup> Table 1 below lists the segments of the route that would be used by construction workers and provides existing traffic volumes and level of service.

**TABLE 1  
ROAD SEGMENTS UTILIZED BY CONSTRUCTION WORKERS**

Roadway	Segment	Daily Volume	V/C Ratio	LOS
Azusa Avenue	1 <sup>st</sup> Street – 5 <sup>th</sup> Street	10,300	0.38	A
Azusa Avenue	5 <sup>th</sup> Street – Foothill Blvd.	9,700	0.54	A
Azusa Avenue	9 <sup>th</sup> Street – Sierra Madre Avenue	4,400	0.16	A
San Gabriel Avenue	1 <sup>st</sup> Street – 5 <sup>th</sup> Street	10,400	0.29	A
San Gabriel Avenue	5 <sup>th</sup> Street – Foothill Blvd.	7,900	0.22	A
San Gabriel Avenue	9 <sup>th</sup> Street – Sierra Madre Avenue	4,500	0.13	A
San Gabriel Avenue	Sierra Madre Avenue – Mirador Drive	4,600	0.35	A

SOURCE: City of Azusa, General Plan and Development Code Draft EIR, 2003.

The LOS A ranking on the road segments that would be utilized by project workers is an indicator that traffic moves smoothly. The additional 25 workers and three truck trips per day accessing the site for a six month period would not result in a substantial increase to the existing traffic load and capacity of the street system, and would not change the level of service standard, or conflict with any applicable plans establishing performance measures for the circulation system. Therefore, impacts would be less than significant.

- b. Less than Significant Impact.** According to the 2010 Congestion Management Program (CMP) for Los Angeles County (Metro), the nearest CMP arterial monitoring intersection to the project site is Azusa Avenue/San Gabriel Avenue and Foothill Boulevard.<sup>24</sup> The proposed project would only require a maximum of 25 daily commute workers and three truck trips per day. Given the low number of temporary, new trips, impacts to nearby CMP intersections are less than significant
- c. No Impact.** The project site is not located in the vicinity of any airport. The nearest airports are the El Monte Airport, located nine miles southwest of the site, and Brackett Field, located eight miles southeast of the site. Project activities would generally be located on the ground, except for an overhead carriage system that may be used to move tools, and a helicopter may be used up to ten trips to transport supplies and materials up to higher parts of the pipeline. The overhead carriage system would not extend into airspace and would not be high enough to impact air traffic. The distance from the project site to the nearest airport facilities, and minimal localized short-term use of the helicopter would not result in a change in air traffic patterns, and substantial air traffic safety risks would not occur.
- d. No Impact.** The proposed project would improve existing hydroelectric pipeline infrastructure that is located along a hillside and not within or adjacent to a roadway.

<sup>23</sup> City of Azusa, General Plan, Chapter 3: The Built Environment, April 2004, p. 3-57.

<sup>24</sup> Los Angeles County Metropolitan Transportation Authority, 2010 Congestion Management Program.

The project would not alter existing roadways nor include any hazardous design features such as sharp curves or dangerous intersections. No incompatible uses such as farm equipment are proposed. As such, no impacts would occur.

- e. **No Impact.** Emergency access for the project site is provided via Ranch Road. Project activities would be short-term over a six month period and limited to staging areas near the pipeline facilities and construction corridors adjacent to the hillside pipelines. The project activities are not in the vicinity of the emergency access route from the project site, and would not interfere with traffic flow or emergency response access to the project area. As a result, the project would not impact emergency access.
- f. **No Impact.** No policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities exist for the project area that is within the hydroelectric facility. The proposed project would improve existing pipeline facilities and would not propose any activities that would conflict with any policies, plans, or programs support alternative transportation in other adjacent areas. Therefore, no impacts would occur.

# Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>17. UTILITIES AND SERVICE SYSTEMS—Would the project:</b>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Explanation:

- a. **No Impact.** The proposed project involves improving existing pipeline infrastructure. The project would not produce wastewater and would not require a discharge permit from, or exceed the requirements of, the Regional Water Quality Board (RWQCB).<sup>25</sup> As a result, no impact would occur.
- b. **Less Than Significant Impact.** The proposed project consists of structural upgrades to existing pipeline infrastructure that is part of an existing hydroelectric facility. The improvements would not increase water capacity of the pipelines or otherwise increase the demand for water or water treatment. The project does not involve construction of wastewater infrastructure; and the project would not generate wastewater. Therefore, beyond improving the existing pipelines for the hydroelectric plant, implementation of the project would not require or result in the construction of water or wastewater treatment facilities, and impacts are less than significant.

<sup>25</sup> Los Angeles Regional Water Quality Control Board, Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994.

- c. **No Impact.** The proposed project consists of structural upgrades to existing pipeline facilities for the hydroelectric plant. The project does not involve the construction of new or expanded storm water drainage facilities. The project would not expand impervious surfaces, would not alter the existing natural drainage pattern of the site, or otherwise increase the demand for storm water drainage facilities. Therefore, implementation of the project would not result in impacts related to storm water drainage facilities.
- d. **Less Than Significant Impact.** The main sources of water provided in the City of Azusa are from the San Gabriel Groundwater Basin, San Gabriel River, and the Canyon Filtration Plant. The project involves structural improvements to existing water pipelines used by the hydroelectric facility. The project would not expand the capacity of the pipelines, and operation of the pipelines after construction would not require or generate demand for additional water supplies.

The proposed project may require minimal amounts of water during the short-term construction activities, related to soil wetting, concrete setting, and cleaning equipment. Existing water supplies provided through the hydroelectric plant would be adequate to serve the project, and additional entitlements are not required. Impacts to water supply and demand would be less than significant.

- e. **No Impact.** The proposed project consists of structural upgrades to existing pipelines used by a hydroelectric facility. The project would not generate wastewater flows, and would not result in impacts related to wastewater treatment capacity.
- f. **Less Than Significant Impact.** Construction of the pipeline improvements would result in minimal short-term solid waste. Operation of the improved pipelines would not generate solid waste. Waste is disposed of by the Los Angeles County Sanitation District system. Construction waste from the project is likely to be brought to the Puente Hills Landfill, which is the closest landfill facility to the project site, and is permitted to accept 13,200 tons of solid waste per day.<sup>26</sup> The amount of solid waste generated from the six month construction activities would not be a significant amount and would not place a great demand on landfills. Therefore, impacts to solid waste facilities would be less than significant.
- g. **No Impact.** Construction and operation of the proposed project would result in minimal solid waste that would be hauled offsite to a local landfill in compliance with federal, state, and local statutes related to solid waste. No impacts would occur.

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<sup>26</sup> Sanitation Districts of Orange County, Puente Hills Landfill, Accessed August 21, 2012, [http://www.lacsd.org/solidwaste/swfacilities/landfills/puente\\_hills/default.asp](http://www.lacsd.org/solidwaste/swfacilities/landfills/puente_hills/default.asp).

# Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>18. MANDATORY FINDINGS OF SIGNIFICANCE</b>				
a) Does the project have the 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulative considerable? (“Cumulative 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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:**

**a. Less Than Significant with Mitigation Incorporated.** The project site is located within an area adjacent to the hydroelectric plant facilities, open space, and residential uses. Because the project is upgrading existing facilities with no expansion proposed, no long term direct impacts to resources would occur. Any impacts associated with the project would occur during the six month construction period. As discussed in sections 1 through 17, above, potentially significant impacts to biological and cultural resources may occur as a result of construction activities. However, construction activities would be limited to a corridor surrounding the existing pipelines and staging areas that would reduce the area of potential impact. In addition, Mitigation Measures 4.1, 4.2, 5.1, 5.2, 5.3, 5.4, 5.5 to avoid potential biological and cultural resource related impacts would ensure that impacts are less than significant.

**b. Less Than Significant Impact with Mitigation Incorporated.** A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. Because the project impacts are generally construction related, the cumulative study area is generally confined to the areas adjacent to the project site, which include open spaces, residential areas, and the hydroelectric plant.

There are several past, present, and reasonably foreseeable projects identified in the City of Azusa that are listed in Table 2. None of the listed projects not located adjacent to the project site. The closest project is located approximately 2.5 miles south of the project

site. The projects identified in Table 2 are characterized as residential, school, industrial, and retail in nature.

**TABLE 2  
CUMULATIVE PROJECTS LIST**

<b>Project</b>	<b>Location</b>	<b>Land Use</b>	<b>Quantity</b>
Monrovia Nursery Specific Plan	Northeast Azusa	Single-Family Detached	752 Dwelling Units
		Multi-Unit Attached	823 Dwelling Units
		Elementary School	245 Students
		Middle School	175 Students
		Park	5.5 Acres
		Transit Commercial	50,000 Gross Square Ft.
		Existing Nursery	-381 Acres
Azusa Pacific University Specific Plan	Azusa Pacific University – East Campus	University / College	874 Students
	Azusa Pacific University – West Campus	University / College	2,550 Students
Residential	710 S Azusa Avenue	Condominiums	81 Dwelling Units
Mixed Use	890 Gladstone (Gladstone & Citrus)	Apartments	9 Dwelling Units
		Retail/Commercial	4,443 Gross Square Feet
Target Project	809 N. Azusa Avenue	Retail	150,000 Square Feet
Residential Project	523 – 531 Arrow Highway	Condominiums	28 Dwelling Units
Azusa Rock Revised Conditional Use Permit and Reclamation Plan	Northerly terminus of Encanto Parkway and Fish Canyon Road	Mineral Resource – Mining	The Revised Conditional Use Permit and Reclamation Plan, upon approval by the City and State Office of Mining and Reclamation, would allow the applicant to modify its operations and reclamation approach

SOURCE: City of Azusa, 2012.

The project’s structural upgrades to the existing pipeline facilities would not impact any scenic vistas, state scenic highways, or generate any light and glare; and cumulative aesthetic impacts would not occur. The project area does not include any agricultural or mineral resources that could be impacted; and the project would have no effect on land use, population, housing, public services, and utilities. As a result, cumulative impacts related to these resources would not occur.

In addition, air quality, greenhouse gas, noise, hazardous material, water quality and traffic impacts that are generated by construction activities would be short-term and very limited by largely utilizing hand labor, minimal construction workers traveling to the site, and a short construction period. The minimal emissions, noise, hazardous materials, traffic and water pollutants generated by the project would also be less than cumulatively considerable due to the location of the project and limited construction activities and duration. Furthermore, impacts related to biological resources and cultural resources would be less than cumulatively considerable with implementation of Mitigation Measures 4.1, 4.2, 5.1, 5.2, 5.3, 5.4, 5.5. Therefore, the proposed project would not result in any impacts that would be individually limited, but cumulatively considerable resulting from the planned structural upgrades.

- c. **Less Than Significant Impact with Mitigation Incorporated.** Based on the analysis above, the proposed project would have potential environmental effects on biological resources and cultural resources that could cause adverse effects on human beings, either directly or indirectly. However, implementation of mitigation measures as provided within each of these resource topic sections of this environmental checklist would ensure that project related potential impacts would be less than significant. Therefore, after incorporation of Mitigation Measures 4.1, 4.2, 5.1, 5.2, 5.3, 5.4, 5.5, the proposed project would result in a less than significant environmental impact to human beings.



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# **APPENDIX A**

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## **Biological Resources Reports**

**BIOLOGICAL TECHNICAL REPORT  
FOR THE FOR THE CITY OF PASADENA  
AZUSA HYDROELECTRIC PIPELINE SEISMIC RETROFIT PROJECT  
LOS ANGELES COUNTY,CALIFORNIA**

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**December 2011**

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## **SECTION 1.0 – INTRODUCTION**

Chambers Group, Inc. (Chambers Group) was retained by the City of Pasadena Department of Water and Power to conduct a literature review and reconnaissance-level biological survey for the proposed Azusa Hydroelectric Pipeline Seismic Retrofit project (Project). The purpose of this document is to report the results of the survey.

### **1.1 PROJECT LOCATION**

The Project site is within the U.S. Geological Survey (USGS) *Azusa*, California 7.5-minute topographic quadrangle in Section 23 of Township 1 north, and Range 10 west (Figures 1 and 2). The elevation range at the Project site is between approximately 750 and 1,100 feet above mean sea level (amsl).

### **1.2 PROJECT DESCRIPTION**

The Project involves the retrofit of two pipes to prevent damage in the event of earth shifting events including earthquakes and landslides. The two pipes include: (1) the Penstock and (2) the Spillway Bypass. The Penstock is a 38-inch inside diameter welded steel pipe. While it is currently operating without material leakage, some of its pipe supports have rotated to the point where at least one support is near collapse. The triggering events that could cause this to occur include: a moderately large earthquake; or continued raveling and sloughing of the hillside slope. Several of the concrete supports have become substantially exposed due to ongoing hill slope soil erosion, while other supports have become buried with debris to the point that some pipe supports have become locked up and cannot work properly to allow unrestricted thermal expansion or contraction of the pipe.

The Spillway Bypass is a 36-inch inside diameter segmented concrete pipe. Under strong earthquake ground shaking, the existing segmented concrete pipe could uplift off its existing supports, resulting in cracking and opening of the segmented joints. If the earthquake occurs while the pipe is operating, the internal pressure of the water could jet out of the cracked joint, leading to a large sideways thrust on the pipe and further opening of the joint(s), leading to a full loss of water.



Figure 1. Site Vicinity Map

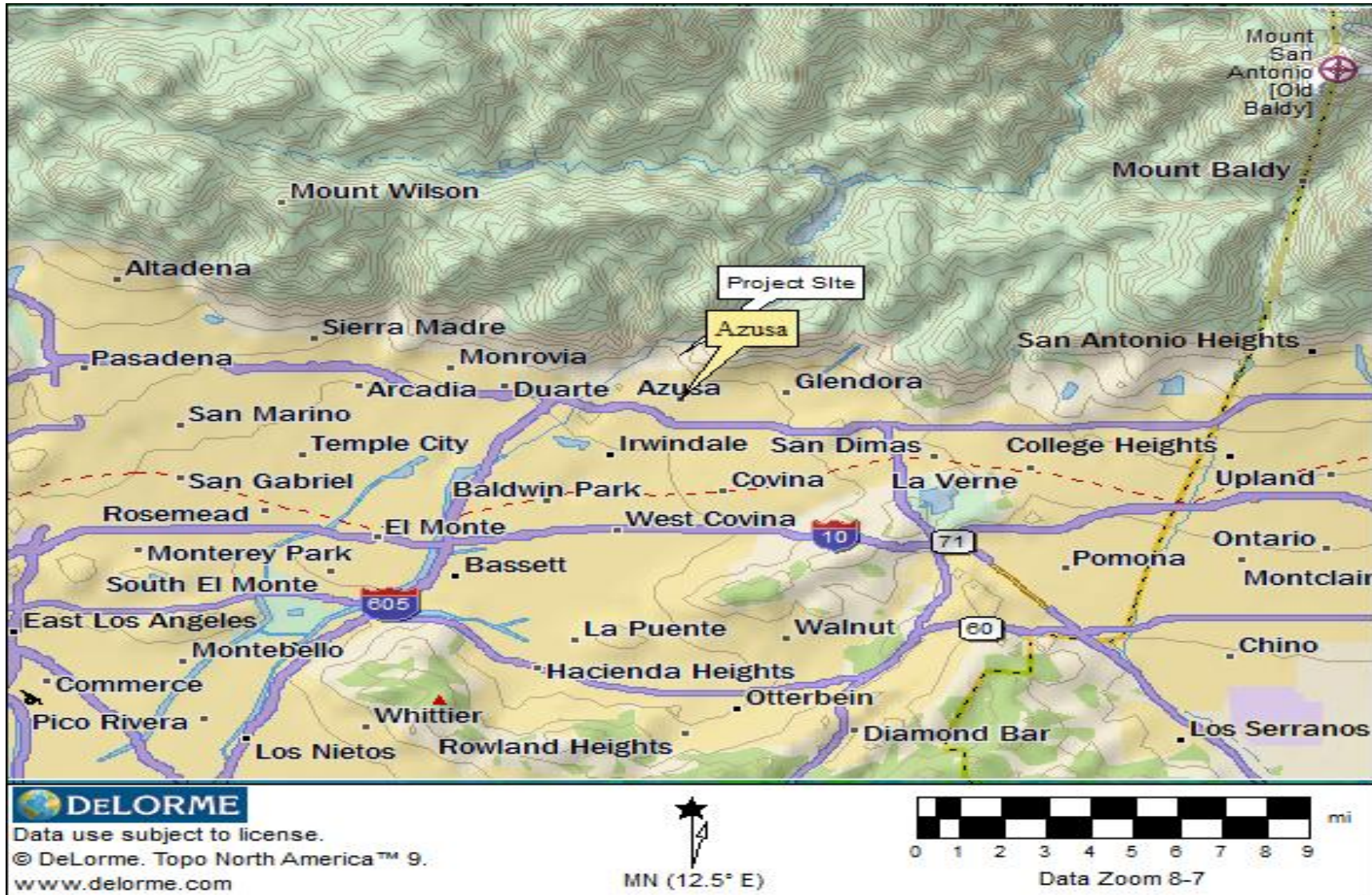
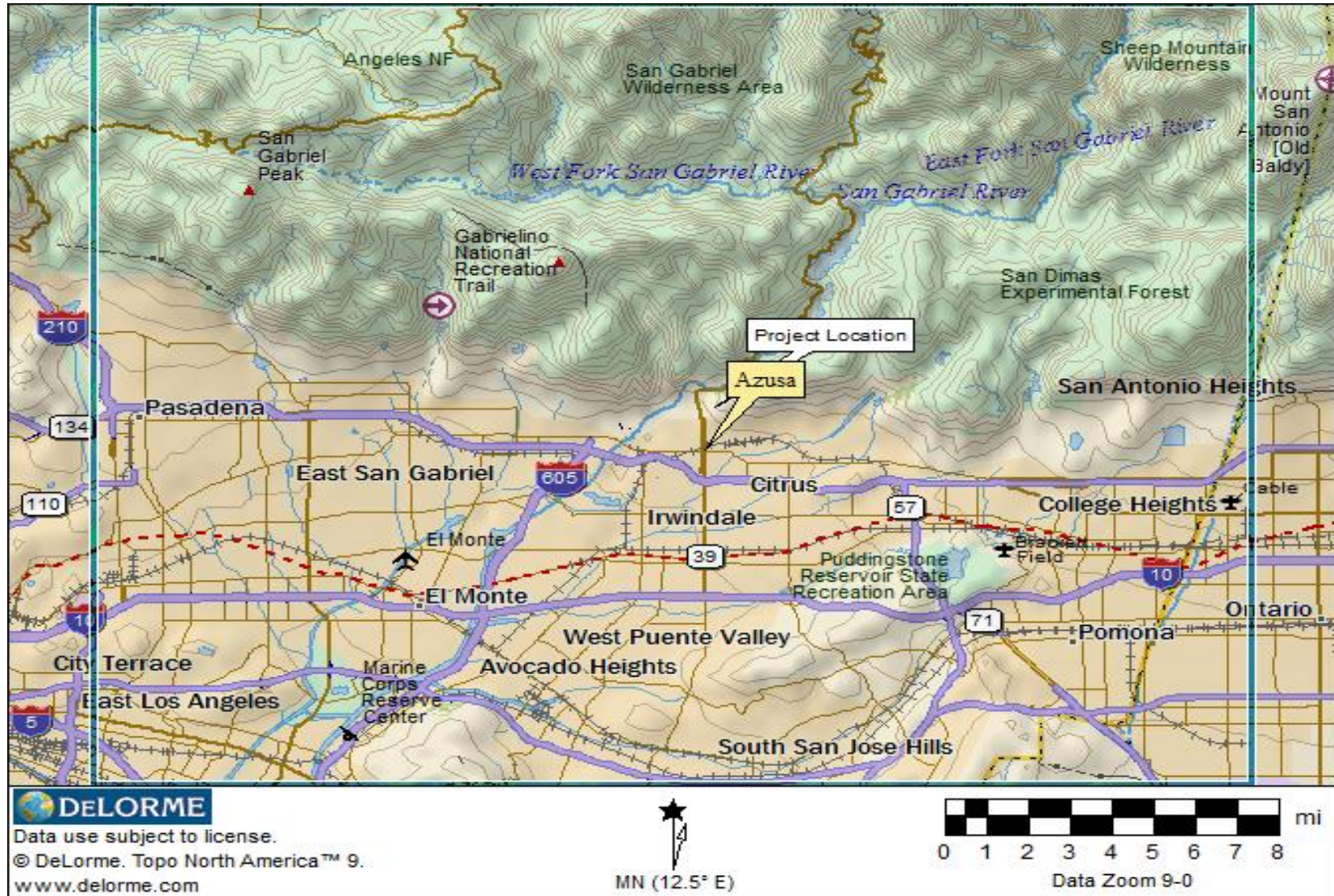


Figure 2. Site Location Map



## SECTION 2.0 – METHODOLOGY

### 2.1 LITERATURE REVIEW

Prior to performing the field surveys, existing documentation relevant to the Project site was reviewed. The most recent records of the California Natural Diversity Database (CNDDDB) managed by the California Department of Fish and Game (CDFG 2011) and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2011) were reviewed for the quadrangle containing and surrounding the Project site, which included *Azusa*, *Glendora*, and *Baldwin Park*, California USGS 7.5-minute quadrangles. These databases contain records of reported occurrences of federal- or state-listed as endangered or threatened species, proposed endangered or threatened species, California Species of Concern (CSC), or otherwise sensitive species or habitats that may occur within or in the immediate vicinity of the Project site.

### 2.2 SOILS

Before conducting the surveys, soil maps for Los Angeles County were referenced online (<http://soils.usda.gov/technical/classification/osd/index.html>) to determine the types of soil found on the Project site. Soils were determined in accordance with categories set forth by the U.S. Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2011).

### 2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

The field survey was conducted in the Project area to identify the potential for occurrence of sensitive species, vegetation communities, or habitats to support sensitive wildlife species. The survey was conducted on foot throughout the Project area between 0800 and 1030 hours on November 28, 2011. Photographs of the Project site were recorded to document existing conditions. Weather conditions during the survey included temperatures ranging from approximately 68 to 73 degrees Fahrenheit with 0 percent cloud cover and no precipitation. Chambers Group biologists Leslie Levy, Nichole Cervin, and Paul Morrissey conducted the general reconnaissance survey.

#### 2.3.1 Vegetation

All plant species and soil types observed on the Project site were noted. Plant communities in the Project site were identified, qualitatively described, and mapped onto an aerial photograph. Plant communities were determined in accordance with the categories set forth in Holland (1986) or Sawyer and Keeler-Wolf (2009). Plant nomenclature follows that of *The Jepson Manual: Higher Plants of California* (Hickman 1993). A comprehensive list of the plant species observed during the survey is presented in Appendix A.

#### 2.3.2 Wildlife

All wildlife and wildlife sign observed or detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in specific habitats most likely to be utilized by wildlife (undisturbed native habitat, wildlife trails, etc.), or in habitats with the potential to support state- and/or federal-listed or otherwise sensitive species. Notes were made on the general habitat types, species observed, and the conditions of the Project site. A comprehensive list of the wildlife species observed during the survey is presented in Appendix B.

### **2.3.3 Jurisdictional Waters**

The Project site was also assessed for the presence of potential jurisdictional waters. The locations of all potential jurisdictional water features on the project site were noted. Notes were recorded for each accessible feature, including: ordinary high water mark, bank-to-bank measurements, soil composition, and surrounding habitat type. Photographs of each accessible feature were also taken.

## SECTION 3.0 – RESULTS

### 3.1 SOILS

After reviewing the USDA Soil Conservation Service and referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2010), it was determined that the Project site is located within the Los Angeles County Southeastern part (CA696). Based on the results of the database searches, no soil data were found for this area.

### 3.2 VEGETATION

A total of 42 plant species were observed on the Project site. All plant species observed during the survey were characteristic for the existing Project site conditions.

#### 3.2.1 Vegetation Communities

A total of six vegetation communities were observed within the Project area. Representative Project site photographs were taken to document Project site conditions during the survey (Appendix C). Acreage calculations for each vegetation community found on the Project site are presented in **Error! Reference source not found.**

#### Coastal Sage Scrub

Coastal Sage Scrub, as described by Holland (1986), is dominated by California sagebrush (*Artemisia californica*), forming an intermittent to continuous canopy of shrubs less than one meter in height; this series exists on shallow and rocky soils. The floristic composition of this vegetation community matches the Diegan Coastal and Riversidian Sage Scrubs. This composition typically occurs on xeric sites, such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. This vegetation type contains low, soft-woody sub-shrubs that are most active in winter and early spring; many taxa are drought-deciduous (Holland 1986). Elevation for the Coastal Sage Scrub community ranges from sea level to 4,000 feet above mean sea level. Approximately 0.14 acre of Coastal Sage Scrub occurs on the Project site.

#### Disturbed Coastal Sage Scrub

Disturbed Coastal Sage Scrub has the same characteristics as Coastal sage Scrub, with the exception that the community has a high percentage of non-native weedy species (i.e., greater than 25 percent of the species cover). Approximately 0.12 acre of Disturbed Coastal Sage Scrub occurs on the Project site.

#### Laural Sumac Scrub

Laural Sumac Scrub, as described by Sawyer and Keeler-Wolf (2009), can either be dominated by laurel sumac (*Malosma laurina*) or lemonade berry (*Rhus integrifolia*). Gray and Bramlet (1992) refer to this type of community as mixed Chaparral. Black sage (*Salvia mellifera*) and toyon (*Heteromeles arbutifolia*) can also be important species within this community. Typically, shrubs are less than 13 feet in height, with an open or continuous canopy and a sparse ground cover layer. Slopes are often steep, north-facing, and include shallow or coarse soils. Elevation for Laural Sumac Scrub ranges from sea level to 1,300 feet amsl. Approximately 0.70 acre of Laural Sumac Scrub occurs on the Project site.

### **Ornamental Landscaping**

Ornamental Landscaping includes areas where the vegetation is dominated by non-native horticultural plants (Gray and Bramlet 1992). Typically, the species composition consists of introduced trees, shrubs, flowers, and turf grass. Approximately 1.46 acres of Ornamental Landscaping occur on the Project site.

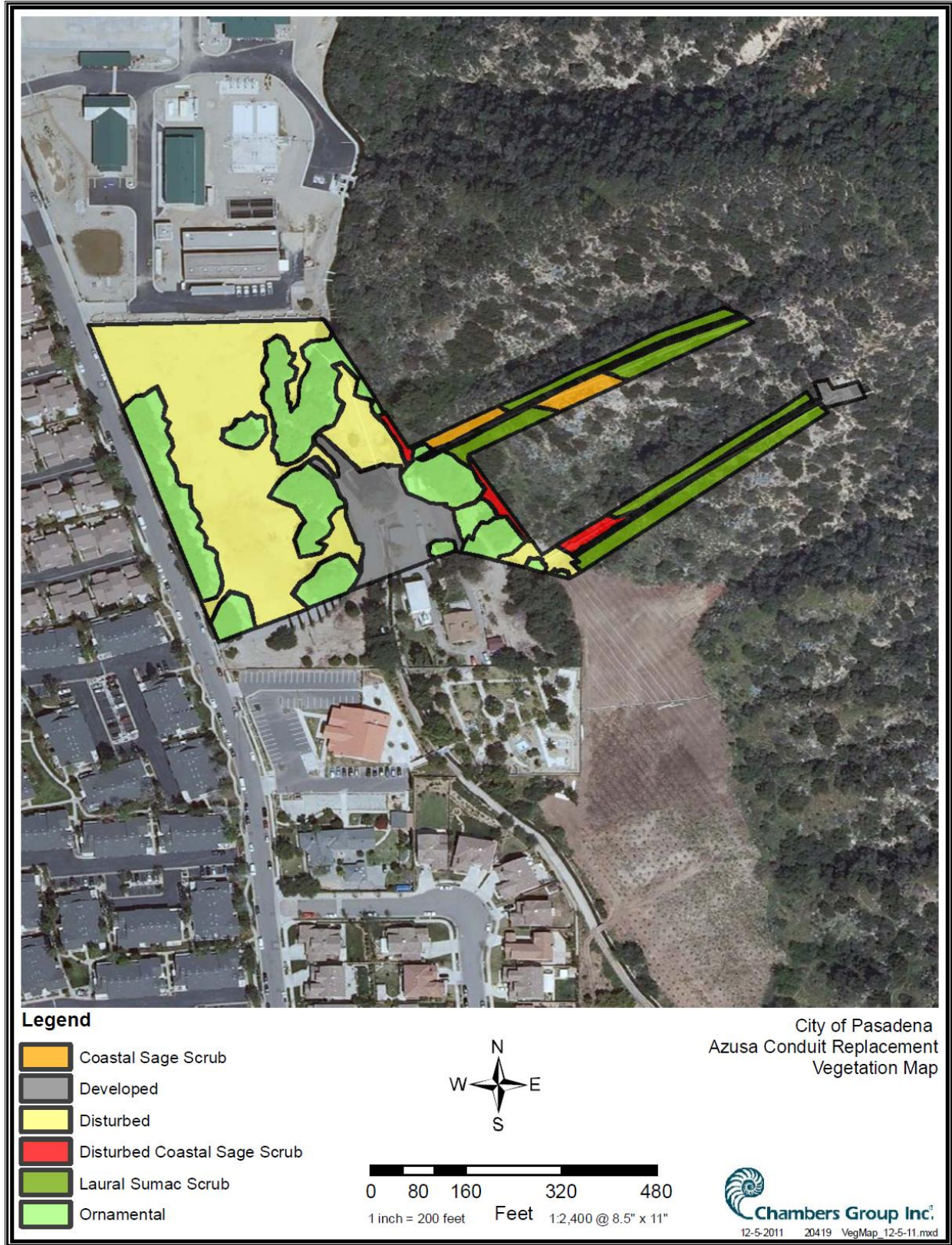
### **Disturbed**

Disturbed areas are those areas that are either devoid of vegetation (cleared or graded), such as dirt roads, or those areas that have a high percentage of non-native weedy species (i.e., greater than 25 percent of the species cover). Approximately 2.75 acres of Disturbed areas occur on the Project site.

### **Developed**

Developed areas are areas that have been altered by humans and now display man-made structures such as houses, paved roads, buildings, parks, and other maintained areas. Approximately 0.15 acre of Developed areas occur on the Project site.

Figure 3. Vegetation Communities Map



**Table 1. Vegetation Community Acreages within the Project Area**

Vegetation Community	Acres Within the Project Area
Coastal Sage Scrub	0.14
Disturbed Coastal Sage Scrub	0.12
Laurel Sumac Scrub	0.70
Ornamental Landscaping	1.46
Developed	0.15
Disturbed	2.75
<b>Total</b>	<b>5.32</b>

### 3.3 SENSITIVE PLANT AND WILDLIFE SPECIES

The following information was used to determine the significance of biological resources potentially occurring in the Project site. The criteria used to evaluate the potential for sensitive species to occur on the Project site are outlined in **Error! Reference source not found.** (Plants) and Table 4 (Wildlife).

**Table 2. Criteria for Evaluating Sensitive Plant Species Potential for Occurrence (PFO)**

PFO	CRITERIA
<b>Absent:</b>	Species is restricted to habitats or environmental conditions that do not occur within the Project site.
<b>Low:</b>	Historical records for this species do not exist within the immediate vicinity (approximately 5 miles) of the Project site, and/or habitats or environmental conditions needed to support the species are of poor quality.
<b>Moderate:</b>	Either a historical record exists of the species within the immediate vicinity of the Project site (approximately 5 miles) and marginal habitat exists on the Project site, or the habitat requirements or environmental conditions associated with the species occur within the Project site, but no historical records exist within 5 miles of the Project site.
<b>High:</b>	Both a historical record exists of the species within the Project site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the Project site.
<b>Present:</b>	Species was detected within the Project site at the time of the survey.



### 3.3.1 Sensitive Plants

Current database searches (CNDDDB 2011 and CNPSEI 2011) resulted in a list of 47 federal- and state-listed threatened and endangered, or rare sensitive plant species that have been documented to occur within the vicinity of the Project site. These sensitive species and their potentials to occur within the project area are listed in Table 3. The factors used to determine the potential for occurrence include quality of habitat, soil types, elevation, and the date and location of prior CNDDDB records of occurrence. The current listing status for each species is also provided in Table 3.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>Anomobryum julaceum</i> slender silver moss	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 2 G4G5	Broadleaf upland forests, lower montane coniferous forests, and north coast coniferous forests in damp rocky soil on outcrops usually on road cuts. Moss. (330-3,300 ft amsl).	<b>Absent</b>  Lack of suitable habitat.
<i>Astragalus brauntonii</i> Braunton's milk-vetch	FED: STATE: CNPS: S-Rank: G-Rank:	<b>END</b> None 1B.1 2.1 2	Chaparral, coastal sage scrub, native grasslands, and conifer forests, in gravelly clay soils. Perennial herb. (0-2,080 ft amsl.)	<b>Low</b>  Low quality suitable habitat is present along the pipelines; however, there are no historic records of this species within 5 miles of the Project site.
<i>Atriplex serenana</i> var. <i> davidsonii</i> Davidson's saltscale	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 5T2	Coastal bluff scrub, coastal scrub, typically on alkaline soils. Annual herb. (30-656 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Berberis nevinii</i> Nevin's barberry	FED: STATE: CNPS: S-Rank: G-Rank:	<b>END</b> <b>END</b> 1B.1 2.2 2	Chaparral, cismontane woodland, coastal scrub, and riparian scrub, typically on sandy or gravelly soils. Perennial evergreen shrub. (1,000-2,700 ft amsl.)	<b>Low</b>  Low quality suitable habitat is present along the pipelines; however, there are no historic records of this species within 5 miles of the Project site.
<i>Botrychium crenulatum</i> scalloped moonwort	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 S2.2 G3	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps and upper montane coniferous forests. Rhizomatous herb. (4,160-10,760 feet amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FED: STATE: CNPS: S-Rank: G-Rank:	<b>THR</b> <b>END</b> 1B.1 2.1 2	Coastal scrub, cismontane woodlands, grasslands, and vernal pools in clay soils. Perennial herb. (200-1,000 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>California macrophylla</i> round-leaved filaree	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.1 3.1 3	Cismontane woodlands and valley and foothill grasslands in clay soils. Annual herb. (50-4,000 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Calochortus clavatus</i> var. <i>gracilis</i> slender mariposa lily	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 4T2	Chaparral in shaded foothill canyons. Perennial herb. (1,300-2,500 ft amsl.)	<b>Low</b>  Low quality suitable habitat is present along the pipelines; however, there are no historic records of this species within 5 miles of the Project site.
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa-lily	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 2T1	Chaparral, lower montane coniferous forest, and meadows and seeps in mesic soils. Perennial bulbiferous herb. (3,280-7,845 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Calochortus plummerae</i> Plummer's mariposa lily	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 3 3	Coastal sage scrub, chaparral woodlands and grasslands in dry rocky places. Perennial bulbiferous herb. (300-5,300 ft amsl.)	<b>High</b>  Suitable habitat present along the pipelines and there are historic occurrences of this species within 5 miles of the Project site.
<i>Calochortus striatus</i> alkali mariposa lily	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 2	Chaparral, desert scrub, meadows, chenopod scrub. Perennial bulbiferous herb. (300-5,200 feet amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Calochortus weedii</i> var. <i>intermedius</i> intermediate mariposa lily	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 S2.2 G3G4T2	Chaparral, coastal scrub, valley and foothill grasslands on rocky, calcareous soils. Perennial bulbiferous herb. (350-2,800 ft amsl.)	<b>Moderate</b>  Suitable habitat is present along the pipelines; however, there are no historic occurrences of this species within 5 miles of the Project site.
<i>Carex occidentalis</i> western sedge	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.3 S2.S3 G4	Lower montane coniferous forest, and meadows and seeps. Rhizomatous herb. (5,390-10,280 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Castilleja gleasonii</i> Mt. Gleason Indian paintbrush	FED: STATE: CNPS: S-Rank: G-Rank:	None <b>Rare</b> 1B.2 2.2 2Q	Lower montane coniferous forest. Perennial herb. (3,609-7,218 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>Centromadia parryi</i> ssp. <i>australis</i>  southern tarplant	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.1 2.1 4T2	Favors margins of marshes and swamps, mesic soils of valley and foothill grassland, and vernal pools. (0 – 1,400 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>  San Fernando Valley spineflower	FED: STATE: CNPS: S-Rank: G-Rank:	FC <b>END</b> 1B.1 S1.1 G2T1	Coastal scrub, valley and foothill grasslands in sandy soils. Annual herb. (490-4,000 feet amsl.)	<b>Moderate</b>  Suitable habitat is present along the pipelines; however, there are no historic occurrences of this species within 5 miles of the Project site.
<i>Chorizanthe parryi</i> var. <i>parryi</i>  Parry's spineflower	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.1 2S3 3T3	Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland in sandy or rocky openings. Annual herb. (900-4,005 ft amsl.)	<b>Moderate</b>  Suitable habitat is present along the pipelines; however, there are no historic occurrences of this species within 5 miles of the Project site.
<i>Cladium californicum</i>  California saw-grass	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 2.2 4	Meadows and seeps, marshes and swamps in alkaline or freshwater soils. Perennial rhizomatous herb. (200-2,000 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>  Peruvian dodder	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 SH G5T4T5	Marshes and swamps. Annual parasitic vine. (50-920 feet amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Dodecahema</i> <i>leptoceras</i>  slender-horned spineflower	FED: STATE: CNPS: S-Rank: G-Rank:	<b>END</b> <b>END</b> 1B.1 1 1	Chaparral, cismontane woodland, coastal scrub in alluvial fans or sandy places. Annual herb. (650-2,500 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Drymocallis cuneifolia</i> var. <i>ewanii</i>  Ewan's woodbeauty	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.3 S1 G5T1	Lower montane coniferous forests near meadows and seeps. Perennial herb. (6,200-7,900 feet amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>  San Gabriel River dudleya	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 1.2 5T1	Chaparral on granitic slopes. Perennial herb. (900-1,200 ft amsl.)	<b>High</b>  Suitable habitat is present along the pipelines and there are historic occurrences of this species within 5 miles of the Project site.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>Dudleya densiflora</i> San Gabriel Mountains dudleya	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.1 1.1 1	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland, typically on granitic soils on cliffs and canyon walls. Perennial herb. (800-2,000 ft amsl.)	<b>High</b>  Suitable habitat is present along the pipelines and there are historic occurrences of this species within 5 miles of the Project site.
<i>Dudleya multicaulis</i> many-stemmed dudleya	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 2	Valley and foothill grasslands, coastal scrub, and chaparral in dry, stony places in heavy clay soils. Perennial herb. (up to 2,600 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. No heavy clay soils are located on the Project site.
<i>Fimbristylis thermalis</i> hot springs fimbristylis	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 2.2 4	Meadows and seeps, in alkaline soil near hot springs. (360-4,400 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Galium grande</i> San Gabriel bedstraw	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2.2 2	Broadleaved upland forest, chaparral, cismontane woodland, lower coniferous forest. Perennial deciduous shrub. (1,400-4,925 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Horkelia cuneata</i> ssp. <i>puberula</i> mesa horkelia	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.1 2.1 4T2	Chaparral, cismontane woodland, coastal scrub typically on sandy or gravelly soil. Perennial herb. (200-2,660 ft amsl.)	<b>High</b>  Suitable habitat is present along the pipelines and there are historic occurrences of this species within 5 miles of the Project site.
<i>Imperata brevifolia</i> California satintail	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.1 2.1 2	Chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and riparian scrub in mesic soils. Perennial rhizomatous herb. (up to 1,650 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.1 2.1 4T3	Coastal salt marshes and swamps, playas, and vernal pools. Annual herb. (up to 4,005 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper- grass	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2.2 5T2	Chaparral and coastal scrub in dry soils. Annual herb. (up to 3,000 ft amsl.)	<b>High</b>  Suitable habitat is present along the pipelines and there are historic occurrences of this species within 5 miles of the Project site.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>Lilium parryi</i> lemon lily	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 3	Lower montane coniferous forest, meadows, and riparian forest, typically in mesic soils. Perennial bulbiferous herb. (4,000-9,200 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Linanthus concinnus</i> San Gabriel linanthus	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 2	Chaparral, lower/upper montane coniferous forest, typically in rocky openings. Annual herb. (5,000-9,200 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Linanthus orcuttii</i> Orcutt's linanthus	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.3 2 4	Chaparral, lower montane coniferous forest, pinyon and juniper woodlands in openings. Annual herb. (3,000-7,050 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Lupinus peirsonii</i> Peirson's lupine	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.3 2.3 2	Joshua tree woodland, lower/upper montane coniferous forest, pinyon and juniper woodland, typically on gravelly or rocky soils. Perennial herb. (3,200-8,200 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Nemacladus secundiflorus</i> var. <i>robbinsii</i> Robbin's nemacladus	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 S2 G3T2	Openings in chaparral and valley and foothill grasslands. Annual herb. (1,150 – 5,600 ft amsl.)	<b>Moderate</b>  Suitable habitat is present along the pipelines; however, there are no historic occurrences of this species within 5 miles of the Project site.
<i>Muhlenbergia californica</i> California muhly	FED: STATE: CNPS: S-Rank: G-Rank:	None None 4.3 3.3 3	Chaparral, coastal scrub, lower montane coniferous forests, and meadows and seeps typically in mesic soils and stream banks. Rhizomatous herb. (325-6,565 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Opuntia basilaris</i> var. <i>brachyclada</i> short-joint beavertail	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 1.2 5T1	Chaparral, Joshua tree woodland, mojavean desert scrub, pinyon and juniper woodland from sandy to rocky, in open stream beds and on rocky slopes (1,400 – 5,900 ft amsl)	<b>Absent</b>  Lack of suitable habitat.
<i>Oreonana vestita</i> woolly mountain-parsley	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.3 3.3 3	Lower/upper montane coniferous forest and subalpine coniferous forest typically on gravel or talus soils. Perennial herb. (5,300-11,485 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>Parnassia cirrata</i> var. <i>cirrata</i>  San Bernardino grass- of-Parnassus	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.3 2.3 5T2	Lower/upper montane coniferous forest, and meadow and seeps, typically in mesic soils, stream sides, and sometimes calcareous soils. Perennial herb. (4,100-8,000 ft amsl.)	<b>Absent</b>  Lack of suitable habitat. Project site is below the elevation range for this species.
<i>Phacelia stellaris</i>  Brand's star phacelia	FED: STATE: CNPS: S-Rank: G-Rank:	<b>CAN</b> None 1B.1 S1 G2?	Coastal dunes and coastal scrub in sandy soils. Annual herb. (Sea level – 1,300 ft amsl.).	<b>Absent</b>  Lack of suitable habitat.
<i>Pseudognaphalium</i> <i>leucocephalum</i>  white rabbit-tobacco	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 S2S3.2 4	Chaparral, cismontane woodlands, coastal scrub, and riparian woodlands on sandy or gravelly soil. Perennial herb. (up to 6,900 ft amsl.)	<b>High</b>  Suitable habitat is present along the pipelines and there are historic occurrences of this species within 5 miles of the Project site.
<i>Ribes divaricatum</i> var. <i>parishii</i>  Parish's gooseberry	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1A SH 4TH	Riparian woodlands. Perennial shrub. (200 – 1,000 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Scutellaria bolanderi</i> ssp. <i>Austromontana</i>  Southern mountains skullcap	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 S2 G4T2	Chaparral, cismontane woodland, and lower montane coniferous forest on mesic soils. Perennial rhizomatous herb. (1,390 – 6,550 ft amsl.).	<b>Absent</b>  Lack of suitable habitat.
<i>Senecio aphanactis</i>  Chaparral ragwort	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 S1.2 G3	Chaparral, cismontane woodland coastal scrub on alkaline soils. Annual herb. (50 – 2,600 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Symphyotrichum</i> <i>defoliatum</i>  San Bernardino aster	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.2 2 2	Lower montane coniferous forest, coastal scrub, meadows and seeps, marshes and swamps, and valley and foothill grassland (vernally mesic) typically near ditches, streams, and springs. Perennial rhizomatous herb. (6 - 6,695 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur On-site
<i>Symphotrichum greatae</i>  Greata's aster	FED: STATE: CNPS: S-Rank: G-Rank:	None None 1B.3 S2.3 G2	Broad-leafed upland forests, chaparral, cismontane woodland, lower montane coniferous forests, and riparian woodlands in mesic soils. Perennial rhizomatous herb. (980 – 6,600 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Thelypteris puberula</i> var. <i>sonorensis</i>  Sonoran maiden fern	FED: STATE: CNPS: S-Rank: G-Rank:	None None 2.2 2.2 5T3	Meadows along streams and seepage areas. Perennial rhizomatous herb. (150-2,000 ft amsl.)	<b>Absent</b>  Lack of suitable habitat.
<i>Federal designations</i> (Federal Endangered Species Act, USFWS):				
	END: THR: PTH: CAN:	Federal-listed, endangered. Federal-listed, threatened. Federal-listed, proposed-threatened Candidate species.		
<i>State designations</i> (California Endangered Species Act, CDFG):				
	END: THR: RARE:	State-listed, endangered. State-listed, threatened. State-listed as rare (Listed "Rare" animals have been re-designated as threatened, but Rare plants have retained the Rare designation.)		
<i>California Native Plant Society (CNPS) designations</i> (Note: According to CNPS [Skinner and Pavlik 1994], plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.):				
	List 1A: List 1B: List 2: List 3: List 4: List Extension 0.1:  List Extension 0.2: List Extension 0.3:	Plants presumed extinct in California. Plants rare and endangered in California and throughout their range. Plants rare, threatened, or endangered in California but more common elsewhere in their range. Plants about which we need more information; a review list. Plants of limited distribution; a watch list. Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).  Fairly endangered in California (20-80% occurrences threatened). Not very endangered in California (<20% of occurrences threatened).		
<i>California Natural Diversity Database (CNDDDB) Global (G) and State (S) ranking designations:</i>				
	G1: G2: G3: G4: G5:	Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres. Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; (i.e., there is some threat, or somewhat narrow habitat). Population or stand demonstrably secure to ineradicable due to being commonly found in the world.		
	GH:  GX: GXC: G1Q: T:	All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists (SH = All California sites are historical).  All sites are extirpated; this element is extinct in the wild (SX = All California sites are extirpated). Extinct in the wild; exists in cultivation. The element is very rare, but there are taxonomic questions associated with it. Applies to a subspecies or variety.		

**Table 3. Sensitive Plant Species Potentially Occurring Within the Project Site**

Scientific Name/ Common Name	Status	Habitat and Habit (Elevation)	Potential to Occur On-site
SH:	Presumed extinct in California.		
S1:	Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres.		
S2:	6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.		
S3:	21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.		
S4:	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. No threat to rank.		
S5:	Demonstrably secure to ineradicable in California. No threat to rank.		
Extension 0.1:	Very threatened.		
Extension 0.2:	Threatened.		
Extension 0.3:	No current threats known.		

Source: California Natural Diversity Data Base (CNDDB 2011) and California Native Plant Society Electronic Inventory (CNPSEI 2011) for *Azusa*, *Glendora*, and *Baldwin Park*, California 7.5 minute USGS quadrangles.

### **3.3.2 Federal and State Listed Threatened or Endangered Plant Species**

#### **Braunton’s Milk-Vetch**

Braunton’s milk-vetch is a federal-listed as endangered species. This species occurs in chaparral, coastal sage scrub, native grasslands, and conifer forests at elevations up to 2,100 ft amsl and primarily in sandstone soils with carbonate layers. This species generally remains dormant until human-caused disturbances or fires create habitat clearings. The blooming period for Braunton’s milk-vetch occurs between February and July.

Low quality suitable habitat for this species is present within the Project site; however, there are no historical occurrences of this species within 5 miles of the project site. Therefore, Braunton’s milk-vetch has a low potential to occur on the Project site.

#### **Thread-Leaved Brodiaea**

Thread-leaved brodiaea is a federal-listed as threatened and state-listed as an endangered species. This species is a bulbiferous perennial herb found in vernal pools or areas with heavy clay soils at elevations ranging from 200 to 1,000 ft amsl. The blooming period for this species occurs between May and June.

No suitable habitat for this species is present within the Project site. Furthermore, there are no historic occurrences of this species within 5 miles of the project site. Therefore, thread-leaved brodiaea is considered absent from the Project site.

#### **Nevin’s Barberry**

Nevin’s barberry is a federal- and state-listed endangered species. This evergreen shrub flowers between March and June. It is found in sandy or gravelly soils on steep, north-facing slopes or in low grade, sandy washes, often on banks of ephemeral streams in foothills of transverse and peninsular ranges at elevations between 1,000 to 2,700 ft amsl. Habitats for this species include chaparral, cismontane woodland, coastal scrub, and riparian scrub. Known ranges include: Los Angeles, Riverside, San Bernardino, and San Diego counties. Many historical occurrences have been extirpated.



Low quality suitable habitat for this species is present within the Project site; however, there are no historic occurrences of this species within 5 miles of the Project site. Therefore, Nevin's barberry has a low potential to occur on the Project site.

#### **Mt. Gleason Indian Paintbrush**

Mt. Gleason Indian paintbrush is a state-listed rare species. It is a hemiparasitic perennial herb found in lower montane coniferous forests and pinyon and juniper woodlands, on granite soils, at elevations ranging from 3,609 to 7,218 ft amsl. The blooming period for Mt. Gleason Indian paintbrush occurs between May and June.

No suitable habitat for this species is present within the Project site. Furthermore, the elevation range for this species is well above that of the Project site and there are no historic occurrences of this species within 5 miles of the Project site. Therefore, this species is considered absent from the Project site.

#### **San Fernando Valley Spineflower**

San Fernando Valley spineflower is a state-listed endangered species. This species occurs in coastal scrub and grassland habitats in sandy soils at elevations ranging up to 2,500 ft amsl. The blooming period for the San Fernando spineflower occurs between April and June.

Suitable habitat for this species is present within the Project site; however, there are no historic occurrences of this species within 5 miles of the Project site. Therefore, San Fernando Valley spineflower has a moderate potential to occur on the Project site.

#### **Slender-Horned Spineflower**

Slender-horned spineflower is both a federal-listed and state-listed endangered species. This species occurs in chaparral, cismontane woodlands, and coastal scrub in sandy soils at elevations ranging from 650 to 2,500 ft amsl. The blooming period for the slender-horned spineflower occurs between April and June.

No suitable habitat is present within the Project site. Furthermore, there are no historical occurrences within 5 miles of the Project site. Therefore, slender-horned spineflower is considered absent from the Project site.

### **3.3.3 Wildlife**

A current database search (CNDDDB) resulted in a list of 25 federal- and state-listed endangered or threatened, Species of Concern, and otherwise Sensitive wildlife species that may potentially occur within the Project area. After a literature review, the assessment of the various habitat types on the Project site, it was determined that sixteen sensitive wildlife species are considered absent (A) and nine have a low potential to occur (L). No sensitive wildlife have a moderate potential to occur (M) or high potential to occur (H) within the Project site or are considered present (P) on the Project site. Factors used to determine potential for occurrence include quality of habitat and the location of prior CNDDDB records of occurrence, and results of the focused survey efforts. Current listing status for each species is provided within Table 5 below.

**Table 4. Criteria for Evaluating Sensitive Wildlife Species Potential for Occurrence (PFO)**

PFO	CRITERIA
<b>Absent:</b>	Species is restricted to habitats or environmental conditions that do not occur within the Project site.
<b>Low:</b>	Historical records for this species do not exist within the immediate vicinity (approximately 5 miles) of the Project site, and/or habitats or environmental conditions needed to support the species are of poor quality.
<b>Moderate:</b>	Either a historical record exists of the species within the immediate vicinity of the Project site (approximately 5 miles) and marginal habitat exists on the Project site, or the habitat requirements or environmental conditions associated with the species occur within the Project site, but no historical records exist within 5 miles of the Project site.
<b>High:</b>	Both a historical record exists of the species within the Project site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the Project site.
<b>Present:</b>	Species was detected within the Project site at the time of the survey.

**Table 5. Sensitive Wildlife Species Potentially Occurring Within the Project Site**

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<b>CLASS OSTEICHTHYES</b>	<b>BONY FISH</b>			
<b>CATASTOMIDAE</b>	<b>SUCKERS</b>			
<i>Catostomus santaanae</i>	Santa Ana sucker	FT, CSC	A	Occurs in southern coastal streams and prefers sand/rubble/boulder bottoms with cool, clear water and algae. Suitable habitat for this species is absent. Known to occur within about 1 mile of the Project site, but there is no aquatic connectivity to the site or suitable habitat present on site.
<b>CYPRINIDAE</b>	<b>MINNOWS AND CARPS</b>			
<i>Gila orcuttii</i>	arroyo chub	CSC	A	Utilizes slow-moving sections of stream with mud and sand deposits. Feeds heavily on aquatic vegetation and associated invertebrates. Suitable habitat for this species is absent. Known to occur within 1.5 miles of the Project site, but there is no aquatic connectivity to the site or suitable habitat present on site.
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	CSC	A	Require permanent flowing streams with shallow cobble and gravel riffles of streams. Suitable habitat is absent. Known to occur within about 1.5 miles of the Project site, but there is no aquatic connectivity to the site or suitable habitat present on site.
<b>CLASS AMPHIBIA</b>	<b>AMPHIBIANS</b>			
<b>PLETHODONTIDAE</b>	<b>SALAMANDERS</b>			
<i>Ensatina klauberi</i>	large-blotched salamander	CSC	A	Found under logs, boards, or moist leaf litter. Retreat in rodent burrows or other underground moist areas during dry summers. Prefers moist but not saturated soils. Minimal suitable habitat is present when water is present in a nearby drainage. However, there are no known occurrences within 5 miles.
<b>SALAMANDRIDAE</b>	<b>NEWTS</b>			

**Table 5. Sensitive Wildlife Species Potentially Occurring Within the Project Site**

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Taricha torosa</i>	coast range newt	CSC	L	Typically found in terrestrial habitats (grassland, woodland, and forest) but breeds in ponds, reservoirs, and slow moving streams. Suitable habitat present along most of the San Gabriel River system. Suitable habitat is present. Known to occur within one mile of the Project site; however, suitable habitat is only present in the vicinity of the site when water is present in a nearby drainage.
<b>RANIDAE</b>	<b>TRUE FROGS</b>			
<i>Rana muscosa</i>	Sierra Madre yellow-legged frog	FE, SC, CSC	A	Always encountered within a few feet of water. Relatively small species of frog that typically inhabits mountain creeks, lakes, particularly sunny riverbanks, meadow streams, isolated pools, and lake borders. Generally found near steep gradient streams of a chaparral belt or other water sources around 1,200–7,550 ft amsl. Site is below the elevation range for this species and there are no known occurrences within 5 miles.
<b>CLASS REPTILIA</b>	<b>REPTILES</b>			
<b>EMYDIDAE</b>	<b>BOX AND WATER TURTLES</b>			
<i>Emys marmorata</i> ( <i>Actinemys marmorata pallida</i> )	western pond turtle	CSC	A	Inhabits permanent or nearly permanent bodies of water. Requires basking sites and suitable nesting sites. Suitable habitat is absent and there are no known occurrences within 5 miles.
<b>IGUANIDAE</b>	<b>IGUANID LIZARDS</b>			
<i>Phrynosoma blainvillii</i>	coast horned lizard	CSC	L	Inhabitants of coastal sage scrub and chaparral in arid and semi-arid climates. Prefers friable, rocky, or shallow sandy soils. Suitable habitat is present on site and species is known to occur within 4 miles of the Project site.

**Table 5. Sensitive Wildlife Species Potentially Occurring Within the Project Site**

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<b>TEIIDAE</b>	<b>WHIPTAIL LIZARDS</b>			
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	SA	A	Inhabits semi-arid, desert, woodland, and riparian areas with sparse vegetation. Known to occur within 5 miles of the Project site; however, suitable habitat is absent on site.
<b>COLUBRIDAE</b>	<b>COLUBRID SNAKES</b>			
<i>Thamnophis hammondi</i>	two-striped garter snake	CSC	L	Inhabits streams with rocky beds bordered by willows. Known to occur within half a mile of the Project site; however, suitable habitat is present only when water is present in a nearby drainage.
<b>CLASS AVES</b>	<b>BIRDS</b>			
<b>ACCIPITRIDAE</b>	<b>HAWKS</b>			
<i>Accipiter cooperii</i>	Cooper's hawk (nesting)	WL	L (foraging)  L (nesting)	Inhabit broken woodlands or streamside groves, especially where deciduous trees occur. Suitable habitat is present on site and species is known to occur within 5 miles of the Project site.
<b>CUCULIDAE</b>	<b>CUCKOOS AND RELATIVES</b>			
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FC, SE	A (foraging)  A (nesting)	Occurs within riparian habitats. Primarily associated with willow-cottonwood riparian forest. Suitable habitat is absent and there are no known occurrences within 5 miles.
<b>MUSCICAPIDAE</b>	<b>KINGLETS, GNATCATCHERS</b>			
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT, CSC	L	Occurs at low elevation coastal sage scrub and chaparral communities. Suitable nesting and foraging habitat is present and species is known to occur within 4 miles of the Project site.
<b>PARULIDAE</b>	<b>WOOD-WARBLERS</b>			
<i>Icteria virens</i>	Yellow-breasted chat	CSC	A (Nesting)	Found in willow thickets, brushy tangles, and other dense, understory habitats at low to medium elevations around streams. Known to occur within 5 miles of the Project site, however, suitable habitat is absent on site.
<b>VIREONIDAE</b>	<b>VIREOS</b>			

**Table 5. Sensitive Wildlife Species Potentially Occurring Within the Project Site**

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Vireo bellii pusillus</i>	least bell's vireo	FE, SE	A (foraging)  A (nesting)	Occur in willow woodlands and moist bottomlands. Known to occur within 1.5 mile of the Project site; however, suitable nesting and foraging habitat is absent.
<b>CLASS MAMMALIA</b>	<b>MAMMALS</b>			
<b>VESPERTILIONIDAE</b>	<b>EVENING BATS</b>			
<i>Antrozous pallidus</i>	pallid bat	CSC	A (roosting)  A (foraging)	Prefers rocky habitat with small crevices and trees. Known to occur within 3 miles of the Project site; however, suitable roosting is absent and foraging habitat is minimal on site.
<i>Lasiurus cinereus</i>	hoary bat	SA	A	Roosts in dense foliage of medium to large trees. Prefers to roost where hidden from above with few branches below. Inhabits areas near water. Known to occur within 3 miles of the Project site; however, suitable roosting is absent and foraging habitat is minimal on site.
<i>Lasiurus xanthinus</i>	western yellow bat	CSC	L (roosting)  A (foraging)	Inhabits valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, especially palms. Forages through trees and over water. Known to occur within 3 miles of the Project site; however, suitable roosting habitat is minimal and foraging is absent.
<i>Myotis yumanensis</i>	Yuma myotis	SA	A (roosting)  A (foraging)	Prefers open forests and woodlands with a water source for feeding. Colony nester in caves, buildings, mines, or crevices. Suitable roosting and foraging habitat is absent and there are no known occurrences within 5 miles.
<b>MOLOSSIDAE</b>	<b>FREETAIL BATS</b>			

**Table 5. Sensitive Wildlife Species Potentially Occurring Within the Project Site**

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Eumops perotis californicus</i>	western mastiff bat	CSC	L (roosting) L (foraging)	Roosts in cliff faces, large boulders, and exfoliating rock surfaces. Less commonly found in artificial structures such as buildings and roof tiles. Found in a wide variety of habitats, including desert scrub, chaparral, woodlands, floodplains, and grasslands. Suitable foraging habitat and minimal roosting habitat is present. Known to occur within 3 miles of the Project site.
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	CSC	A (roosting) A (foraging)	Inhabits rocky areas with high cliffs in arid areas. Prefers pinyon-juniper woodland, desert scrub, palm oasis, desert wash, and desert riparian habitats. Known to occur within 5 miles of the Project site; however, suitable habitat is absent.
<i>Nyctinomops macrotis</i>	big free-tailed bat	CSC	A (roosting) A (foraging)	Inhabits low-lying arid areas in southern California with high cliffs or rocky outcrops for roosting. Found in dry forest or pine forest habitats. Known to occur within 3 miles of the Project site; however, roosting and foraging habitat is absent on site.
<b>MUSTELIDAE</b>	<b>WEASELS AND RELATIVES</b>			
<i>Taxidea taxus</i>	American badger	CSC	L	Most abundant in drier open habitats. Found in most shrub, forest, and herbaceous habitats. Requires abundant food source and friable soils. Suitable habitat is present and species is known to occur within 5 miles of the Project site.
<b>LEPORIDAE</b>	<b>RABBITS</b>			
<i>Lepus californicus bennetti</i>	San Diego black-tailed jackrabbit	CSC	L	Intermediate canopy stages of open shrub habitats and grasslands. Suitable habitat is present and species is known to occur within 5 miles of the Project site.
<b>BOVIDAE</b>	<b>BISON, GOATS &amp; SHEEP</b>			

**Table 5. Sensitive Wildlife Species Potentially Occurring Within the Project Site**

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Ovis canadensis nelsoni</i>	Nelson's bighorn sheep	SA	A	Prefers open, rocky, steep areas with available water and herbaceous forage. Suitable habitat is absent and there are no known occurrences within 5 miles.
<p><u>Status Codes</u></p> <p>Federal (FED)  FE = Federally listed; Endangered  FT = Federally listed, Threatened  FPE = Federally Proposed for Listing as Endangered  FPT = Federally Proposed for Listing as Threatened</p> <p>State  ST = State listed; Threatened  SE = State listed; Endangered  CSC = California Species of Special Concern  SC = State Candidate  SA = Listed on CDFG special animals list only, has no special provisions (Note: all listed species are SA listed.)  WL = CDFG Watch List</p> <p>* -- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or at a critical stage in their life cycle when residing in California.  -- Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California.  -- Taxa closely associated with a habitat that that is declining in California (e.g., wetland, riparian, old growth forest).</p>		<p><u>Definitions of Occurrence Probability:</u></p> <ul style="list-style-type: none"> <li>➤ A – Absent from Project Site – Species is concluded to be absent from the Project area based on failure to detect the species during focused surveys, or habitat requirements are not present.</li> <li>➤ L – Low Potential for Occurrence – There is no recent or historical records of the species occurring within the Project site or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur within the Project site or its immediate vicinity.</li> <li>➤ M – Moderate Potential for Occurrence – There is a recent or historical record of the species within the Project site or its immediate vicinity or the Project site is within the species range and contains a varying amount of suitable habitat associated with the species occurs within the Project site or its immediate vicinity.</li> <li>➤ H – High Potential for Occurrence – There is either a recent historical record of the species occurring within the Project site or its immediate vicinity (within approximately 5 miles) or the diagnostic habitat requirements strongly associated with the species occur within the Project site or its immediate vicinity.</li> <li>➤ P – Species Present – The species was observed in the Project area at the time of the survey.</li> </ul>		
<p>Source: California Natural Diversity Data Base (CNDDB 2011), Azusa, Glendora, and Baldwin Park, California (USGS 7.5-minute quads).</p>				

### 3.3.4 General Wildlife

A total of 20 wildlife species were observed or detected during the survey. Wildlife species observed or detected during the site survey were characteristic of the existing Project site conditions. No sensitive species were observed during the reconnaissance survey. A list of wildlife species observed or detected is provided in Appendix B.



### **3.3.5 Sensitive Wildlife Species**

No federal- and state-listed endangered wildlife species were determined to have a high or moderate potential to occur on site. Seven CSC have a low potential to occur within the Project site, and one federally threatened species, coastal California gnatcatcher, has a low potential to occur. The known locations of the sensitive species are found in Figure 4. A description of the species and potential minimization measures are presented below.

#### **3.3.5.1 Coastal California Gnatcatcher (CAGN)**

The coastal California gnatcatcher is a federally threatened species and a California Species of Special Concern. The historic range of this species extended from the coast and foothills of Ventura County, south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego Counties of California into northwestern Baja California, Mexico. It is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 2,500 feet in elevation. Within its range, it associates strongly with California sagebrush (*Artemisia californica*) dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub. Other plant species important for the nesting and foraging of this species include California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), and chaparral broom (*Baccharis sarothroides*). Chamise (*Adenostoma fasciculatum*) habitats may also support breeding pairs, especially where coastal sage scrub may occur nearby or form a component (Bontrager 1991).

Low quality, suitable CAGN habitat was observed during the reconnaissance level survey. Focused species level surveys should be conducted prior to construction. To minimize risk and harm to this species, if present, any vegetation removal should be done outside the nesting season (February 15 to August 31). If vegetation removal or ground-disturbing activities occur within the nesting season, a nesting bird survey should be conducted prior to construction activities to identify any potential nests on or immediately adjacent to the Project site. The survey area should include up to 300 feet outside the Project boundaries.

### **3.3.6 Species of Special Concern**

#### **Western Mastiff Bat**

The western mastiff bat is listed as a California Species of Special Concern. It is a permanent resident throughout its range in southern California, southern Arizona, Texas, and south to South America. It roosts in small colonies or singly in primarily natural substrates such as cliff faces, large boulders, and exfoliating rock surfaces. It is less commonly found in artificial structures such as buildings and roof tiles. It is found in a wide variety of habitats, including desert scrub, chaparral, woodlands, floodplains, and grasslands (CDFG 1995).

Suitable foraging and roosting habitat was observed in the vicinity of the Project site. To minimize potential impacts to this species, preconstruction bat surveys should be conducted. If western mastiff bats are identified to roost on site, a trapping or relocation plan should be submitted to CDFG for approval.

### **Western Yellow Bat**

The western yellow bat is a California Species of Special Concern. It is found in localized populations throughout the southwestern United States to southern Mexico. It is an obligate foliage roosting species that prefers dead palm fronds to other types of tree substrates. The western yellow bat is primarily non-colonial, but small colonies have been documented in some areas. Unlike many other bats found in this region, it appears that this species is found throughout the year in southern California. It is most commonly associated with palm oases but can also occur in grasslands, scrublands, and wooded areas in riparian zones (CDFG 2008).

Suitable roosting habitat was observed in the vicinity of the Project site, but not foraging habitat. To minimize potential impacts to this species, preconstruction bat surveys should be conducted. If western yellow bats are identified to roost on site, a trapping or relocation plan should be submitted to CDFG for approval.

### **San Diego Black-tailed Jackrabbit**

The San Diego black-tailed jackrabbit is listed as a California Species of Special Concern. It is found on the coastal slope from Kern County, California south into Baja California, Mexico between sea level and approximately 3,000 feet amsl. It occurs in a variety of habitats, but prefers intermediate canopy stages of shrub habitats, grasslands, and open shrub, along herbaceous and tree edges within coastal sage scrub habitats in southern California. It also occurs on agricultural lands. This species does not typically burrow, but sits in depressions called forms at the bases of shrubs by day (Howard 1995).

Suitable habitat was observed in the vicinity of the Project site. To minimize potential impacts to this species, preconstruction surveys should be conducted. If San Diego black-tailed jackrabbit is identified, a trapping or relocation plan should be submitted to CDFG for approval.

### **American Badger**

The American badger is a California Species of Special Concern. This carnivorous species ranges over most of the western U.S and upper midwestern U.S. south into central Mexico. In California, the badger may occupy a variety of habitats, especially grasslands, savannas, montane meadows, sparse scrublands, and deserts. It prefers friable soils for burrowing, and relatively open, uncultivated ground (Animal Diversity Web 2008).

Suitable habitat was observed in the vicinity of the Project site. To minimize potential impacts to this species, preconstruction surveys should be conducted. If American badger is identified, a trapping or relocation plan should be submitted to CDFG for approval.

### **Coast Horned Lizard**

The coast horned lizard is a California Species of Concern. It occurs from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura counties southward throughout the Peninsular Ranges of southern California to Baja California, Mexico as far south as San Vicente. It is found in a wide variety of habitats including coastal sage scrub, annual grasslands, chaparral, oak woodlands, riparian woodlands, and coniferous forests. It is perhaps most abundant in riparian and coastal sage scrub habitats on old alluvial fans of the southern California coastal plain. In foothill and mountain habitats that are covered with dense brush or other vegetation, the species is largely restricted to areas with pockets of open

microhabitat. Microhabitats include loose, fine, sandy soils, an abundance of native ants, open areas for basking, and low, but relatively dense shrubs for refuge. This species is found in a variety of habitats, including coastal sage scrub, chaparral, riparian woodland, and annual grassland with friable, rocky or shallow, sandy soils (CalHerps 2009).

Suitable habitat was observed in the vicinity of the Project site. To minimize potential impacts to this species, preconstruction surveys should be conducted. If coast horned lizards are identified, a trapping or relocation plan should be submitted to CDFG for approval.

### **Coast Range Newt**

The coast range newt is a California Species of Special Concern and endemic to California. This species breaths through lungs, is terrestrial, and can be found in wet forests, oak woodlands, chaparral, and grasslands to 6,000 feet amsl (CalHerps 2011a); however, water (ponds, reservoirs, and slow moving streams) is required to breed. It is typically found under leaf litter or bark, or in burrows or cervices, but can also be found walking around during favorable conditions (CalHerps 2011a).

Presence/absence surveys should be conducted prior to construction activities if water is present in a nearby drainage feature. If newts are found, a trapping/relocation plan will need to be submitted to CDFG. Installation of silt fencing may be required along the haul route to prevent harm during construction activities. This will help prevent coast range newts from entering the Project site. In addition, construction activities should not occur within nearby drainage features.

### **Two-Striped Garter Snake**

The two-striped garter snake is a CSC. It is found in Salinas in Monterey County, south along the coast, into the Traverse Ranges in southern California, into Victorville, south to the Peninsular Ranges, and south to Baja California (CalHerps 2011b). The two-striped garter snake is found in or near permanent and intermittent freshwater habitats, including streams, rivers, ponds, and small lakes from sea level to around 8,000 feet amsl. Oak woodlands, brushlands, sparse coniferous forests, and riparian forests may surround its freshwater habitat (CalHerps 2011b).

To minimize potential impacts to this species, preconstruction surveys should be conducted. If garter snakes are identified, a trapping/relocation plan should be submitted to CDFG for approval. In addition, construction activities should not occur within nearby drainage features.

### **3.3.7 Other Wildlife Species**

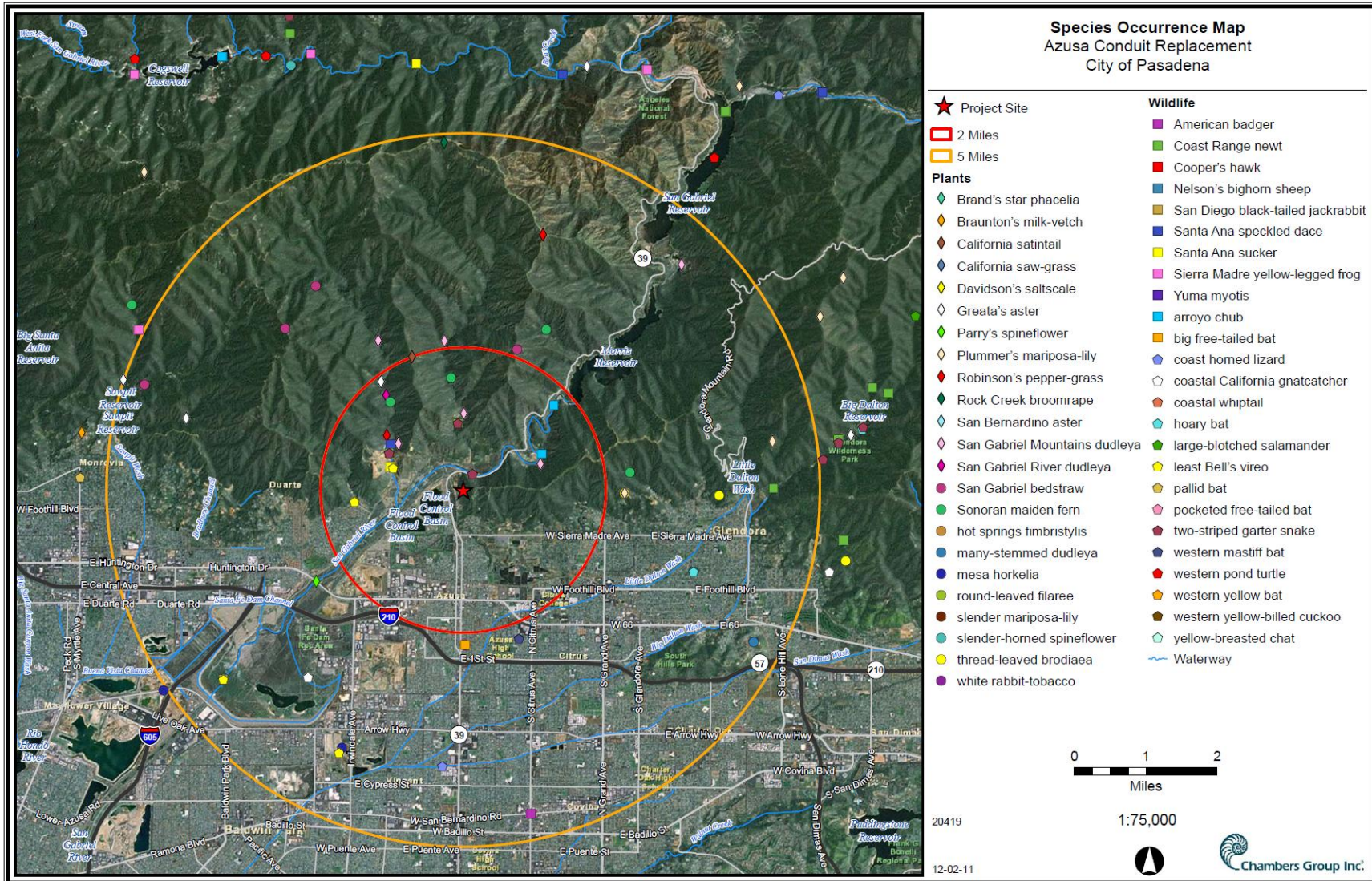
#### **Cooper's Hawk**

The Cooper's hawk is not currently listed as a CSC, but remains on the CDFG Watch-List. This species nests and forages near riparian vegetation and patchy wooded areas, as well as in some landscaped urban areas. Breeding populations are generally restricted to riparian groves and mountain canyons, which occur within the vicinity of the Project site.

To minimize risk and harm to this species, any vegetation removal should be done outside the breeding season (February 15 to August 31). If vegetation removal or ground-disturbing activities occur within the breeding season, a nesting bird survey should be conducted prior to construction activities to identify

any potential nests on or immediately adjacent to the Project site. The survey area should include up to 500 feet outside the Project boundaries.

Figure 4. Sensitive Species Occurrence Map



### **3.4 JURISDICTIONAL WATERS**

A total of four potential jurisdictional features were observed within or directly adjacent to the Project site. These features include a man-made swale, an ephemeral drainage, and two man-made storage pools. The man-made swale is located along the east boundary of the staging area. The feature appears to divert storm water away from the existing facilities on the Project site. The ephemeral drainage is located in between the two pipelines (outside of the proposed Project area). This feature conveys storm water immediately following large rain events.

One of the man-made pools is located near the southeast corner of the Project site. The pool is positioned on top of the hillside directly adjacent to the penstock. The second pool is located within the existing facilities in between the staging area and the bypass pipeline in the northern portion of the Project site.

## **SECTION 4.0 – CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 SENSITIVE PLANT SPECIES**

Based upon lack of suitable habitat and/or elevation requirements, 34 of the 47 federal- and/or state-listed as threatened or endangered, or otherwise sensitive plants, are considered absent from the Project site. The remaining 13 species have a low to high potential to occur on the Project site. Three of these 13 species are federal- and/or state-listed endangered or threatened; therefore, a focused plant survey for Braunton's milk-vetch, Nevin's barberry, and San Fernando valley spineflower is recommended prior to commencement of Project activities. All three species can be targeted with one survey conducted during the month of May.

### **4.2 SENSITIVE WILDLIFE**

Of the 25 sensitive wildlife species identified in the literature review, it was determined that 16 are considered absent and 9 species have a low potential to occur. No sensitive species were considered to have a moderate or high potential to occur within the Project site. However, low quality suitable CAGN habitat was observed during the reconnaissance level survey; therefore, focused species level surveys should be conducted prior to construction. In addition, pre-construction surveys are recommended for sensitive wildlife species as well as nesting birds if work is to be conducted during the avian breeding season (February 15 to August 31).

### **4.3 JURISDICTIONAL WATERS**

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into waters of the United States. Waters of the United States include navigable waterways and wetlands adjacent to navigable waterways, non-navigable waterways, and wetlands adjacent to non-navigable waters that are contiguous with navigable waterways.

The State of California regulates discharge of dredged and/or fill material into waters of the State pursuant to Section 401 of the Clean Water Act. The local Regional Water Quality Control Boards assert jurisdiction to all those areas defined as jurisdictional under Section 404 of the Clean Water Act, plus isolated waters. As a State agency, the State Water Resources Quality Control Board (SWRQCB) regulates all waters of the state, including isolated wetlands as defined Under the California Porter-Cologne Water Quality Control Act (Porter Cologne; Ca. Water Code, Div. 7, §13000 et seq.).

Jurisdictional authority of the CDFG over riparian/wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement.

The Azusa conduit Project site is located within the San Gabriel River watershed, which is a blueline stream and contains riparian vegetation and perennial flowing water. Water from the river enters the facility and is released into the watershed; therefore, the water features observed on the Project site may be subject USACE, SWRQCB, and CDFG jurisdiction. It is recommended that all water features on the site be avoided by Project activities. If these features cannot be avoided, a formal jurisdictional

delineation to determine potential impacts to waters of the United States and waters of the state may be required for this Project prior to authorization.



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## APPENDIX A – PLANT SPECIES OBSERVED ONSITE

**Appendix A**  
**Plant Species Observed Within The Azusa Conduit Project Area**

Scientific Name	Common Name
<b>GYMNOSPERMS</b>	
<b>PINACEAE</b>	<b>PINE FAMILY</b>
<i>Pinus</i> sp.	pine
<i>Pinus halepensis</i>	aleppo pine
<b>ANGIOSPERMS (DICOTYLEDONS)</b>	
<b>ANACARDIACEAE</b>	<b>SUMAC OR CASHEW FAMILY</b>
<i>Malosma laurina</i>	laurel sumac
<i>Rhus integrifolia</i>	lemonadeberry
<i>Schinus molle</i> *	Peruvian pepper tree
<b>ASTERACEAE</b>	<b>SUNFLOWER FAMILY</b>
<i>Artemisia californica</i>	California sagebrush
<i>Brickellia californica</i>	California brickellbush
<i>Centaurea melitensis</i> *	tochalote
<i>Conyza canadensis</i>	horseweed
<i>Encelia californica</i>	California bush sunflower
<i>Helianthus annuus</i>	common sunflower
<i>Helianthus gracilentus</i>	slender sunflower
<i>Lactuca serriola</i> *	prickly lettuce
<i>Malacothrix saxatilis</i>	cliff malacothrix
<i>Sonchus oleraceus</i> *	common sow thistle
<b>BRASSICACEAE</b>	<b>MUSTARD FAMILY</b>
<i>Hirschfeldia incana</i> *	shortpod mustard
<b>CACTACEAE</b>	<b>CACTUS FAMILY</b>
<i>Opuntia littoralis</i>	coastal prickly pear
<b>CONVOLVULACEAE</b>	<b>MORNING-GLORY FAMILY</b>
<i>Calystegia macrostegia</i>	western bindweed
<b>CUCURBITACEAE</b>	<b>GOURD FAMILY</b>
<i>Marah macrocarpus</i>	wild cucumber
<b>CUSCUTACEAE</b>	<b>DODDER FAMILY</b>
<i>Cuscuta californica</i>	California dodder
<b>EUPHORBIACEAE</b>	<b>SPURGE FAMILY</b>
<i>Chamaesyce albomarginata</i>	rattlesnake weed
<i>Ricinus communis</i> *	castor-bean
<b>FAGACEAE</b>	<b>OAK FAMILY</b>
<i>Quercus agrifolia</i>	coast live oak
<b>GERANIACEAE</b>	<b>GERANIUM FAMILY</b>
<i>Erodium moschatum</i> *	white-stemmed filaree
<b>LAMIACEAE</b>	<b>MINT FAMILY</b>
<i>Marrubium vulgare</i> *	horehound
<i>Salvia apiana</i>	white sage
<i>Salvia mellifera</i>	black sage

**Appendix A**  
**Plant Species Observed Within The Azusa Conduit Project Area**

Scientific Name	Common Name
<b>NYCTAGINACEAE</b> <i>Mirabilis californica</i>	<b>FOUR O'CLOCK FAMILY</b> California wishbone bush
<b>POLYGONACEAE</b> <i>Eriogonum elongatum</i> var. <i>elongatum</i> <i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i>	<b>BUCKWHEAT FAMILY</b> long-stemmed buckwheat coastal California buckwheat
<b>RHAMNACEAE</b> <i>Rhamnus ilicifolia</i>	<b>BUCKTHORN FAMILY</b> holly-leaf redberry
<b>ROSACEAE</b> <i>Cercocarpus betuloides</i> <i>Heteromeles arbutifolia</i>	<b>ROSE FAMILY</b> birch-leaf mountain-mahogany toyon
<b>RUBIACEAE</b> <i>Galium angustifolium</i>	<b>MADDER FAMILY</b> narrow-leaved bedstraw
<b>SOLANACEAE</b> <i>Nicotiana glauca</i> * <i>Solanum douglasii</i>	<b>NIGHTSHADE FAMILY</b> tree tobacco Douglas' nightshade
<b>VERBENACEAE</b> <i>Lantana montevidensis</i> *	<b>VERVAIN FAMILY</b> trailing lantana
<b>ANGIOSPERMS (MONOCOTYLEDONS)</b>	
<b>LILIACEAE</b> <i>Yucca whipplei</i>	<b>LILY FAMILY</b> Our Lord's candle
<b>POACEAE</b> <i>Avena barbata</i> * <i>Bromus diandrus</i> * <i>Bromus tectorum</i> * <i>Pennisetum setaceum</i> * <i>Piptatherum miliaceum</i> *	<b>GRASS FAMILY</b> slender wild oat ripgut grass cheat grass fountain grass smilo grass
*Non-Native Species	



## APPENDIX B – WILDLIFE SPECIES OBSERVED/DETECTED ONSITE



**APPENDIX B**  
**Wildlife Observed or Detected Onsite**

Scientific Name	Common Name
<b>CLASS AVES</b>	<b>BIRDS</b>
<b>AEGITHALIDAE</b> <i>Psaltriparus minimus</i>	<b>LONG-TAILED TITS &amp; BUSHTITS</b> bushtit
<b>CORVIDAE</b> <i>Aphelocoma californica</i> <i>Corvus brachyrhynchos</i>	<b>JAYS, MAGPIES, &amp; CROWS</b> Western scrub jay American crow
<b>EMBERIZIDAE</b> <i>Melospiza melodia</i> <i>Pipilo crissalis</i> <i>Zonotrichia leucophrys</i>	<b>EMBERIZIDS</b> song sparrow California towhee white-crowned sparrow
<b>FRINGILLIDAE</b> <i>Carpodacus mexicanus</i> <i>Spinus psaltria</i>	<b>FINCHES</b> house finch lesser goldfinch
<b>MIMIDAE</b> <i>Mimus polyglottos</i>	<b>MOCKINGBIRDS &amp; THRASHERS</b> Northern mockingbird
<b>PARULIDAE</b> <i>Dendroica coronata</i>	<b>NEW WORLD WARBLERS</b> yellow-rumped warbler
<b>PASSERIDAE</b> <i>Passer domesticus</i>	<b>SPARROWS</b> house sparrow
<b>TIMALIIDAE</b> <i>Chamaea fasciata</i>	<b>BABLERS</b> wrentit
<b>TROCHILIDAE</b> <i>Calypte anna</i> <i>Selasphorus sasin</i>	<b>HUMMINGBIRDS</b> Anna's hummingbird Allen's hummingbird
<b>CLASS INSECTA</b>	<b>INSECTS</b>
<b>APIDAE</b> <i>Apis mellifera</i>	<b>BEES</b> European honey bee
<b>CLASS MAMMALIA</b>	<b>MAMMALS</b>
<i>Canis familiaris</i> <i>Canis latrans</i>	domestic dog (scat, tracks) coyote (scat) unknown fox (burrow)
<b>PROCYONIDAE</b> <i>Procyon lotor</i>	<b>RACCOONS</b> raccoons (scat, tracks)
<b>SCIURIDAE</b> <i>Sciurus niger</i>	<b>SQUIRRELS</b> eastern fox squirrel



**APPENDIX C – SITE PHOTOGRAPHS**





**Appendix C**  
**Site Photographs**

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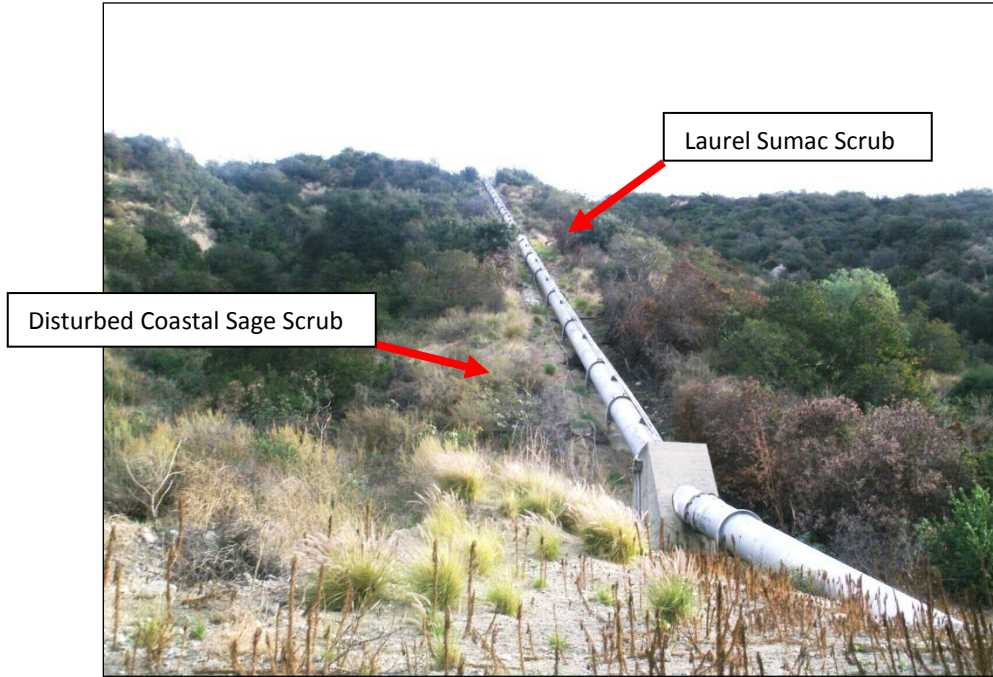


Photo 1: Photo taken looking east towards the south pipeline on the Project site. The picture is representative of the disturbed Coastal Sage Scrub and the Laurel Sumac Scrub vegetation communities found on the Project site

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Photo 2: Photo taken facing east towards the pipe on the north end of the Project site.

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Photo 3: Picture taken facing west. The picture shows the culvert located in the east portion of the proposed staging area. The blue arrows indicate the direction of water flow.

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Photo 4: Photo taken facing east. The photo shows the unvegetated swale that captures water runoff located within the Proposed staging area.

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Photo 5: This photo was taken facing south from the center of the proposed staging area. The photo shows the path of water that is diverted through a 1 ft. plastic pipe into the catch basin.

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Photo 6: Picture taken facing north. The picture shows an overview of the proposed staging area.

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Photo 7: Photo taken facing east. This photo shows the ephemeral drainage that is located into between the two pipelines.

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Photo 8: Shows the bank of the ephemeral drainage located between the two pipelines.

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July 5, 2012  
(20419)

Jason Miller  
City of Pasadena  
Department of Water and Power  
85 East State Street  
Pasadena, California 91105

**Subject: Results of the Focused Plant Survey Conducted for the Azusa Hydroelectric Pipeline Seismic Retrofit Project Located in the City of Azusa, Los Angeles County, California.**

Dear Mr. Miller:

The purpose of this memo report is to summarize the results of the focused plant survey conducted at the Azusa Hydroelectric Pipeline Retrofit project site located in the City of Azusa, Los Angeles County (Project). The Project site is within the U.S. Geological Survey (USGS) *Azusa*, California 7.5-minute topographic quadrangle in Section 23 of Township 1 north, and Range 10 west. The elevation range at the Project site is between approximately 750 and 1,100 feet above mean sea level (amsl). The Project involves the retrofit of two pipes to prevent damage during possible earth-shifting events including earthquakes and landslides.

The two pipes include: (1) the Penstock and (2) the Spillway Bypass. The Penstock is a 38-inch inside diameter welded steel pipe. While it is currently operating without material leakage, some of its pipe supports have rotated to the point where at least one support is near collapse. The triggering events that could lead to collapse include a moderately large earthquake or continued raveling and sloughing of the hillside slope. Several of the concrete supports have become substantially exposed due to ongoing hill slope soil erosion, while other supports have become buried with debris to the point that some pipe supports have become locked up and no longer work properly to allow unrestricted thermal expansion or contraction of the pipe.

The Spillway Bypass is a 36-inch inside diameter segmented concrete pipe. Under strong earthquake ground shaking, the existing segmented concrete pipe could uplift off its existing supports, resulting in cracking and opening of the segmented joints. If the earthquake occurs while the pipe is operating, the internal pressure of the water could jet out of the cracked joint, leading to a large sideways thrust on the pipe and further opening of the joint(s). This would result in full loss of water.

## METHODS

The focused plant survey was conducted by Chambers Group, Inc. botanists, Rebecca Alvidrez and Kun Liu on June 27, 2012. During the survey, the botanists visually scanned the entire Project site for the presence of the federally listed endangered species Braunton's milk-vetch (*Astragalus brauntonii*), federal- and state-

listed endangered species Nevin's barberry (*Berberis nevinii*), and the federal-listed species of concern and state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). All plant species observed during the survey were noted (Attachment 1). Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Baldwin et al. (2012) and Munz (1974). Plant nomenclature follows that of *The Jepson Manual, Vascular Plants of California, Second Edition* (Baldwin et al. 2012).

## RESULTS

Braunton's milk-vetch, Nevin's barberry, and the San Fernando Valley spineflower were not observed during the survey, which was conducted during the appropriate blooming period when each species would be identifiable and conspicuous. There was a high percentage of non-native species such as fountain grass (*Pennisetum setaceum*), tocalote (*Centaurea melitensis*), and shortpod mustard (*Hirschfeldia incana*) within the work area around the pipes of the Project site that potentially compete with sensitive plant species, especially the San Fernando Valley spineflower. A total of 70 plant species were observed within the Project site during the survey (Attachment 1).

## CONCLUSIONS

Braunton's milk-vetch, Nevin's barberry, and the San Fernando Valley spineflower were not observed during the survey; therefore, these three species are considered absent from the Project site. No further surveys for these three sensitive plant species are recommended at this time.

Please contact me at (909) 335-7068 ext. 7327 if you have any questions or concerns regarding this memo.

Sincerely,



Rebecca Alvidrez  
Staff Biologist/Botanist  
[ralvidrez@chambersgroupinc.com](mailto:ralvidrez@chambersgroupinc.com)

Attachment 1 – Plant Species Observed

## References

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Attachment 1 – Plant Species Observed

Scientific Name	Common Name
<b>GYMNOSPERMS</b>	
<b>PINACEAE</b>	<b>PINE FAMILY</b>
<i>Pinus halepensis*</i>	Aleppo pine
<i>Pinus sp.</i>	pine
<b>EUDICOTS</b>	
<b>AMARANTHACEAE</b>	<b>AMARANTH FAMILY</b>
<i>Amaranthus albus</i>	tumbling pigweed
<b>ANACARDIACEAE</b>	<b>SUMAC OR CASHEW FAMILY</b>
<i>Malosma laurina</i>	laurel sumac
<i>Rhus integrifolia</i>	lemonadeberry
<b>ASTERACEAE</b>	<b>SUNFLOWER FAMILY</b>
<i>Ambrosia acanthicarpa</i>	annual bur-sage
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis salicifolia subsp. salicifolia</i>	mule fat
<i>Bidens pilosa</i>	common beggar-ticks
<i>Brickellia californica</i>	California brickellbush
<i>Centaurea melitensis*</i>	tocalote
<i>Encelia californica</i>	California bush sunflower
<i>Erigeron bonariensis*</i>	flax-leaved horseweed
<i>Erigeron canadensis</i>	horseweed
<i>Helianthus annuus</i>	common sunflower
<i>Helianthus gracilentus</i>	slender sunflower
<i>Helminthotheca echioides*</i>	bristly ox-tongue
<i>Lactuca serriola*</i>	prickly lettuce
<i>Malacothrix saxatilis</i>	cliff malacothrix
<i>Rafinesquia californica</i>	California chicory
<i>Sonchus oleraceus*</i>	common sow thistle
<b>BORAGINACEAE</b>	<b>BORAGE FAMILY</b>
<i>Phacelia sp.</i>	phacelia
<b>BRASSICACEAE</b>	<b>MUSTARD FAMILY</b>
<i>Hirschfeldia incana*</i>	shortpod mustard
<b>CACTACEAE</b>	<b>CACTUS FAMILY</b>
<i>Opuntia ficus-indica*</i>	Indian fig
<i>Opuntia littoralis</i>	coastal prickly pear
<b>CAPRIFOLIACEAE</b>	<b>HONEYSUCKLE FAMILY</b>
<i>Lonicera subspicata</i>	southern honeysuckle
<b>CHENOPODIACEAE</b>	<b>GOOSEFOOT FAMILY</b>
<i>Salsola tragus*</i>	Russian thistle



Scientific Name	Common Name
<b>CONVOLVULACEAE</b>	<b>MORNING-GLORY FAMILY</b>
<i>Calystegia macrostegia</i>	western bindweed
<i>Cuscuta californica</i>	California dodder
<b>CUCURBITACEAE</b>	<b>GOURD FAMILY</b>
<i>Marah macrocarpa</i>	wild cucumber
<b>EUPHORBIACEAE</b>	<b>SPURGE FAMILY</b>
<i>Chamaesyce albomarginata</i>	rattlesnake weed
<i>Ricinus communis*</i>	castor-bean
<b>FABACEAE</b>	<b>LEGUME FAMILY</b>
<i>Acmispon strigosus</i>	strigose lotus
<i>Lupinus hirsutissimus</i>	stinging lupine
<i>Lupinus sp.</i>	lupine
<b>FAGACEAE</b>	<b>OAK FAMILY</b>
<i>Quercus agrifolia</i>	coast live oak
<b>GERANIACEAE</b>	<b>GERANIUM FAMILY</b>
<i>Erodium moschatum*</i>	white-stemmed filaree
<b>JUGLANDACEAE</b>	<b>WALNUT FAMILY</b>
<i>Juglans californica</i>	California black walnut
<b>LAMIACEAE</b>	<b>MINT FAMILY</b>
<i>Marrubium vulgare*</i>	horehound
<i>Salvia apiana</i>	white sage
<i>Salvia mellifera</i>	black sage
<b>NYCTAGINACEAE</b>	<b>FOUR O'CLOCK FAMILY</b>
<i>Mirabilis laevis var. crassifolia</i>	California wishbone bush
<b>ONAGRACEAE</b>	<b>EVENING PRIMROSE FAMILY</b>
<i>Epilobium canum</i>	California fuchsia
<b>PLATANACEAE</b>	<b>SYCAMORE FAMILY</b>
<i>Platanus racemosa</i>	western sycamore
<b>POLYGONACEAE</b>	<b>BUCKWHEAT FAMILY</b>
<i>Eriogonum elongatum var. elongatum</i>	long-stemmed buckwheat
<i>Eriogonum fasciculatum var. fasciculatum</i>	coastal California buckwheat
<b>RHAMNACEAE</b>	<b>BUCKTHORN FAMILY</b>
<i>Rhamnus ilicifolia</i>	holly-leaf redberry
<b>ROSACEAE</b>	<b>ROSE FAMILY</b>
<i>Cercocarpus betuloides</i>	birch-leaf mountain-mahogany
<i>Heteromeles arbutifolia</i>	toyon
<i>Prunus persica*</i>	peach
<b>RUBIACEAE</b>	<b>MADDER FAMILY</b>
<i>Galium angustifolium</i>	narrow-leaved bedstraw

Scientific Name	Common Name
<b>RUTACEAE</b>	<b>RUE FAMILY</b>
<i>Citrus sp.*</i>	grapefruit
<b>SOLANACEAE</b>	<b>NIGHTSHADE FAMILY</b>
<i>Datura wrightii</i>	jimson weed
<i>Nicotiana glauca*</i>	tree tobacco
<i>Solanum douglasii</i>	Douglas' nightshade
<i>Solanum elaeagnifolium*</i>	white horse-nettle
<b>VERBENACEAE</b>	<b>VERVAIN FAMILY</b>
<i>Lantana montevidensis*</i>	trailing lantana
<b>ZYGOPHYLLACEAE</b>	<b>CALTROP FAMILY</b>
<i>Tribulus terrestris*</i>	puncture vine
<b>MONOCOTS</b>	
<b>AGAVACEAE</b>	<b>AGAVE FAMILY</b>
<i>Hesperoyucca whipplei</i>	Our Lord's candle
<b>POACEAE</b>	<b>GRASS FAMILY</b>
<i>Avena barbata*</i>	slender wild oat
<i>Bromus diandrus*</i>	ripgut grass
<i>Bromus madritensis subsp. rubens*</i>	foxtail chess
<i>Bromus tectorum*</i>	cheat grass
<i>Cynodon dactylon*</i>	Bermuda grass
<i>Echinochloa crus-galli*</i>	barnyard grass
<i>Pennisetum setaceum*</i>	fountain grass
<i>Piptatherum miliaceum*</i>	smilo grass
<i>Poa annua*</i>	annual bluegrass
<i>Poa pratensis subsp. pratensis*</i>	Kentucky bluegrass
<i>Poa secunda</i>	Malpais bluegrass
*Non-Native Species	

# **APPENDIX B**

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## Cultural Resources Report

Confidential

**AZUSA HYDROELECTRIC PROJECT**  
**CITY OF AZUSA, LOS ANGELES COUNTY**  
Phase I Cultural Resources Survey Report

Prepared for:  
City of Pasadena Department of Water and Power  
150 S Los Robles Ave # 200  
Pasadena, CA 91101

September 2012

Confidential

# AZUSA HYDROELECTRIC PROJECT

## CITY OF AZUSA, LOS ANGELES COUNTY

### Phase I Cultural Resources Survey Report

Prepared for:  
City of Pasadena Department of Water and Power

September 2012

Prepared by  
Monica Strauss, M.A., RPA  
Katherine Anderson, M.A.  
Madeleine Bray, M.A., RPA  
Environmental Science Associates

Location: Asuzu, CA 7.5' USGS topographic quadrangle  
Township 1 N, Range 10 W, Section 22

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120288

## Statement of Confidentiality

This report contains confidential cultural resources location information; report distribution should be restricted to those with a need to know. Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources should be kept confidential. The legal authority to restrict cultural resources information is in California Government Code § 6254.10 and the National Historic Preservation Act of 1966, as amended, § 304.

# Management Summary

The City of Pasadena Department of Water and Power (City of Pasadena) has retained Environmental Science Associates (ESA) to complete a Phase 1 Cultural Resources Study for the proposed Azusa Hydroelectric Project (Project) located in the City of Azusa, Los Angeles County, California. The proposed Project includes the structural retrofitting of two aboveground pipelines (Spillway Bypass and Penstock Pipelines) associated with the Azusa Hydroelectric Plant owned by the City of Pasadena. The City of Pasadena is the responsible lead agency for Project compliance with the California Environmental Quality Act (CEQA).

This Phase 1 Cultural Resources Survey Report details the methods and results of the study, which consisted of an archival records search and a field survey. The records search indicated that four cultural resources (the Covina Canal, P-19-002777; the Glendora Ridge Motorway, P-19-188290; a ca. 1930s craftsman style residence, P-19-186107; and the Azusa Conduit, P-19-188902) have been previously recorded within a ½-mile radius of the Project area. One of the four resources, the Azusa Conduit, is located within the Project area and has been previously recommended eligible for the California Register of Historical Resources (California Register), and one resource, the Covina Canal, is located immediately adjacent to the Project area and has not been previously evaluated.

A Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search revealed that no sacred sites were documented within one-half mile of the Project area, however, that the general area is known to be culturally sensitive.

Four historic-period resources were identified in the Project area as a result of field survey: three features associated with the previously recorded Azusa Conduit (P-19-188902), which includes the Spillway Bypass and Penstock Pipelines, and a newly recorded mid-century corrugated metal storage shed (temporarily designated ESA-AZU-3). Surveyors also relocated the Covina Canal (P-19-002777) outside of but to the immediate north of the Project area. Surveyors also identified a new resource outside of the Project area, described as a historic landscape (ESA-AZS-4), possibly associated with the period of the original hydroelectric plant (circa 1898).

The Azusa Conduit was previously recommended eligible for listing in the National Register of Historic Places (National Register) and California Register and is considered a significant resource under CEQA. The three components of the Azusa Conduit located within the Project area date to the period of significance and contribute to the resource's eligibility for the National Register and California Register. However, impacts to the resource would be minimal. The 1898 riveted steel penstock pipe segment would be avoided during project construction. In addition, modifications to the Penstock and Spillway Bypass Pipelines, which would consist largely of modifications to support structures, would not materially impair the significance of the Azusa Conduit, nor would it alter those qualities which make the resource eligible for listing in the National Register and California Register. The Project would not affect the resources integrity of location, design, setting, materials, workmanship, feeling, or association. The Project would have a less-than-significant impact to the Azusa Conduit. Nonetheless, avoidance and protective measures related to the Azusa Conduit are recommended.

Resource ESA-AZS-3 is recommended not eligible for listing in the California Register and is not recommended significant under CEQA. No further work is recommended in connection with this resource.

The Covina Canal (P-19-002777) and a historic-period landscape identified as ESA-AZS-4 are located immediately adjacent the Project area. Although neither resource has been formally evaluated, both are considered eligible for the California Register for the purposes of this Project. Because of their close proximity to the Project area, avoidance and protective measures related to these resources are recommended.

Based on the results of the archival records search, SLF search, and field survey, it appears that the Project area has a low potential to encounter buried cultural resources during construction. Survey identified that the Project area has been subject to substantial disturbance. In addition, the minimal level of ground disturbance proposed for the Project makes it unlikely that previously unknown cultural resources could be uncovered. Most Project construction activities would occur above-ground, and would not disturb native soil. Project ground-disturbing activities appear to be limited to the removal of soil and debris from Penstock rocker supports that have become buried, and installation of small diversions to prevent future accumulation of debris around the rockers.

Nonetheless, the Project has the potential, although very low, to disturb buried archaeological resources. Recommendations for actions to be taken in the event of inadvertent discovery of cultural resources and/or human remains are provided in the *Summary and Recommendations* section at the close of this report. Additional recommendations for the treatment of identified historic-period resources including the Azusa Conduit, Covina Canal, and ESA-AZS-4 are provided. Recommendations include avoidance and the use of protective fencing, and construction worker cultural resources sensitivity training.



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## Introduction

The City of Pasadena Department of Water and Power (City of Pasadena) retained Environmental Science Associates (ESA) to complete a Phase 1 Cultural Resources Study for the proposed Azusa Hydroelectric Project (Project) located in the City of Azusa, Los Angeles County, California. The proposed Project includes the structural retrofitting of two aboveground pipelines associated with the hydroelectric plant owned by the City of Pasadena.

ESA has conducted this cultural resources study in compliance with the California Environmental Quality Act (CEQA). The study will be used in support of an Initial Study/Mitigated Negative Declaration (IS/MND) being prepared for the Project. The City of Pasadena is the responsible lead agency for Project compliance with CEQA.

The purpose of this cultural resources study is to:

- Identify potential or documented prehistoric and historic-period cultural resources within the Project area;
- Identify potential Project-related impacts to identified and potential cultural resources; and
- Recommend further procedures to avoid potential significant impacts to cultural resources.

This study was completed by Madeleine Bray, who has an M.A. in Archaeology, is a Registered Professional Archaeologist (R.P.A.), and has 5 years of archaeological experience throughout California, and Katherine Anderson, M.A., who prepared the historic architectural evaluation and meets the Secretary of the Interior's Professional Qualifications Standards for architectural historian. Monica Strauss, M.A., R.P.A, served as Principal Investigator. Ms. Bray and Ms. Strauss meet the Secretary of the Interior's Professional Qualifications Standards for archaeologists. Staff qualifications are attached in Appendix A. This Phase 1 Cultural Resources Survey Report details the methods and results of the study, which consisted of an archival records search and a field survey, evaluates resources identified within the Project area, and provides recommendations for avoidance and protection of identified resources and for inadvertent discoveries.

## Project Location and Description

The proposed Project is located in the eastern portion of Los Angeles County, in the City of Azusa, approximately 20 miles northeast of downtown Los Angeles, and just south of the Angeles National Forest. The site is located approximately three miles northeast of the crossing of Interstate (I) 605 and I-210. The proposed Project is within Section 22 of Township 1 North, Range 10 West, on the Azusa, CA 7.5' USGS topographic quadrangle.

The City of Pasadena owns and operates an existing hydroelectric plant (Azusa Hydroelectric Plan) located in the City of Azusa. There are two above ground pipelines associated with the hydroelectric plant; one is the Penstock, a 38-inch welded steel pipe installed in 1948; and the other is the Spillway Bypass pipeline, a 36-inch reinforced concrete pipe installed in the 1930's. These pipelines are located adjacent to the plant and atop two ridges. The pipelines are fed by a

forebay, which is a reservoir that channels the water into the pipe, at the top of the hill from which these ridges run down.

Both pipelines are aged, have structural deficiencies and require structural retrofitting in order to enhance their resistance to damage and reduce the possibility of failure during a seismic event. The City of Pasadena would provide the appropriate structural upgrades to the existing pipeline facilities. The proposed project would not expand the footprint of the facility or capacity of the pipelines.

### **Penstock**

The Penstock is a 38-inch inside diameter welded steel pipe installed in 1948. Several of the Penstock concrete supports have become substantially exposed due to erosion and other supports have become buried with debris to the point that supports have become locked up and do not work properly to allow unrestricted thermal expansion or contraction of the pipe. The pipeline is currently operating without material leakage; however, some of its pipe supports have rotated and at least one support is near collapse. Collapse of a support may lead to severe leakage, and compromise the remainder of the pipeline. In addition, a complete blowout of the pipe at the top of the hill near the expansion joint is an increasing possibility as the facility ages. Furthermore, a moderately large earthquake or continued erosion of the hillside could trigger a collapse of the concrete supports.

To improve the condition of the pipeline, the following upgrades are proposed for the Penstock:

- Removal of soil and debris from rocker supports that have become buried, and installation of small diversions to prevent future accumulation of debris around the rockers. In addition, an annual maintenance program would be instituted to clear ongoing accumulation of debris.
- Filling in eroded areas at supports, as needed, with concrete and controlled density fill.
- Resetting the existing rocker supports to their original positions. This would entail raising the pipe by 1 to 2 inches, resetting the rocker, and setting the pipe down atop the reset rocker.
- Modifying two supports near the uphill expansion joint to prevent disengaging from a major earthquake. This would entail welding small steel plates to the existing ring supports.
- Removal of exterior corrosion near the two existing expansion joints and recoating the exterior of the pipe.
- A galvanized steel hand rail and staircase may be installed for improved access to the forebay.

## **Spillway Bypass**

The Spillway Bypass is a 36-inch inside diameter segmented concrete pipe installed in the 1930's. In a seismic event, the pipeline could uplift its supports and crack joints, resulting in failure of the pipe and release of water. If an earthquake occurs while the pipe is in operation, the internal pressure of the water could result in a large sideways thrust of pressure on the pipe, further opening the joints and cause a full blowout of the pipe.

To improve the condition of the pipeline, the following upgrades are proposed for the Spillway Bypass:

- New steel straps would be attached to the pipe at selected locations to prevent excessive uplift or lateral displacement of the pipe. The steel straps would be 2.5-inch by 0.375-inch galvanized plates, attached to the existing concrete anchor blocks (or the original concrete flumes, or with spikes driven into the hillside, depending on site conditions).
- Minor concrete modifications, as needed, to accommodate the new external steel straps.
- Repainting of damaged pipeline collar connections at select locations.

## **Construction**

Construction activities related to the project are expected to begin in March 2013 and be completed in September 2013. The first ten days would consist of site preparation, and the remaining time would be implementation of the upgrades listed above. A maximum of 20 workers are needed during the site preparation phase and a maximum of 25 workers for construction. The hours of construction would be limited to Monday through Friday, 7am to 5pm.

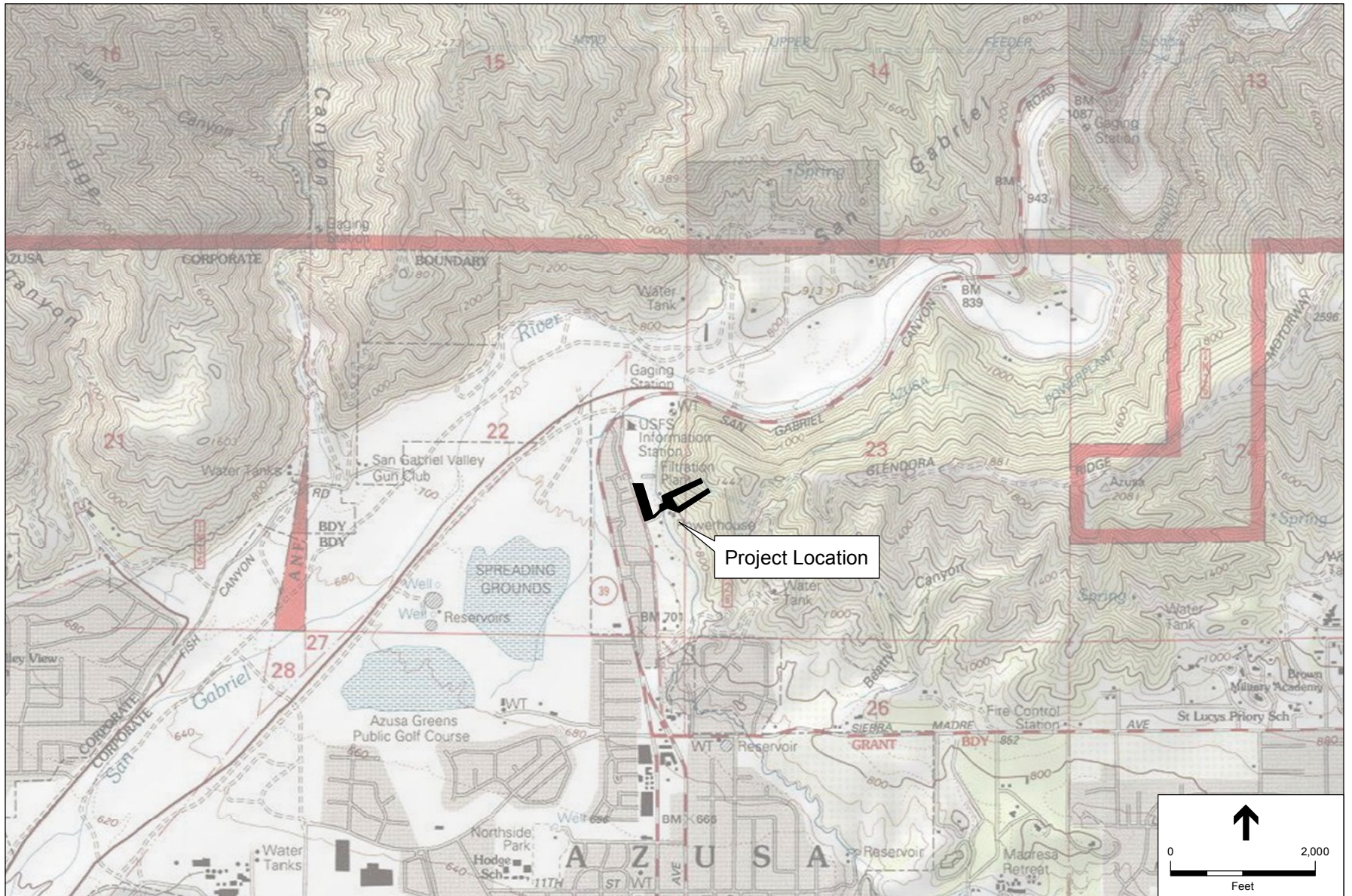
The retrofitting activities would occur within six feet of either side of the pipeline's respective outer edge. Work on the pipelines would be performed using manual labor, hand tools, portable combustion engine generators, welding equipment, and cutting equipment. Work would include: welding, grinding, replacing old conduit, removal of soil for erosion control, and repainting or recoating the pipes to prevent corrosion. Very little ground-disturbing activities would occur; most work would take place above-ground. The steep terrain makes the use of large or earthmoving equipment along the pipelines impossible.

A cable pulley and an electrically-powered overhead carriage system may be used to move tools. In addition, a helicopter may be used to transport supplies and materials up to higher parts of the pipeline. A maximum of ten helicopter trips may occur.

Combustion equipment is anticipated to include:

- Two to three 150hp Portable Air Compressors
- Three to four 20hp Portable Generators
- Two to three 150hp Portable Welding Machines

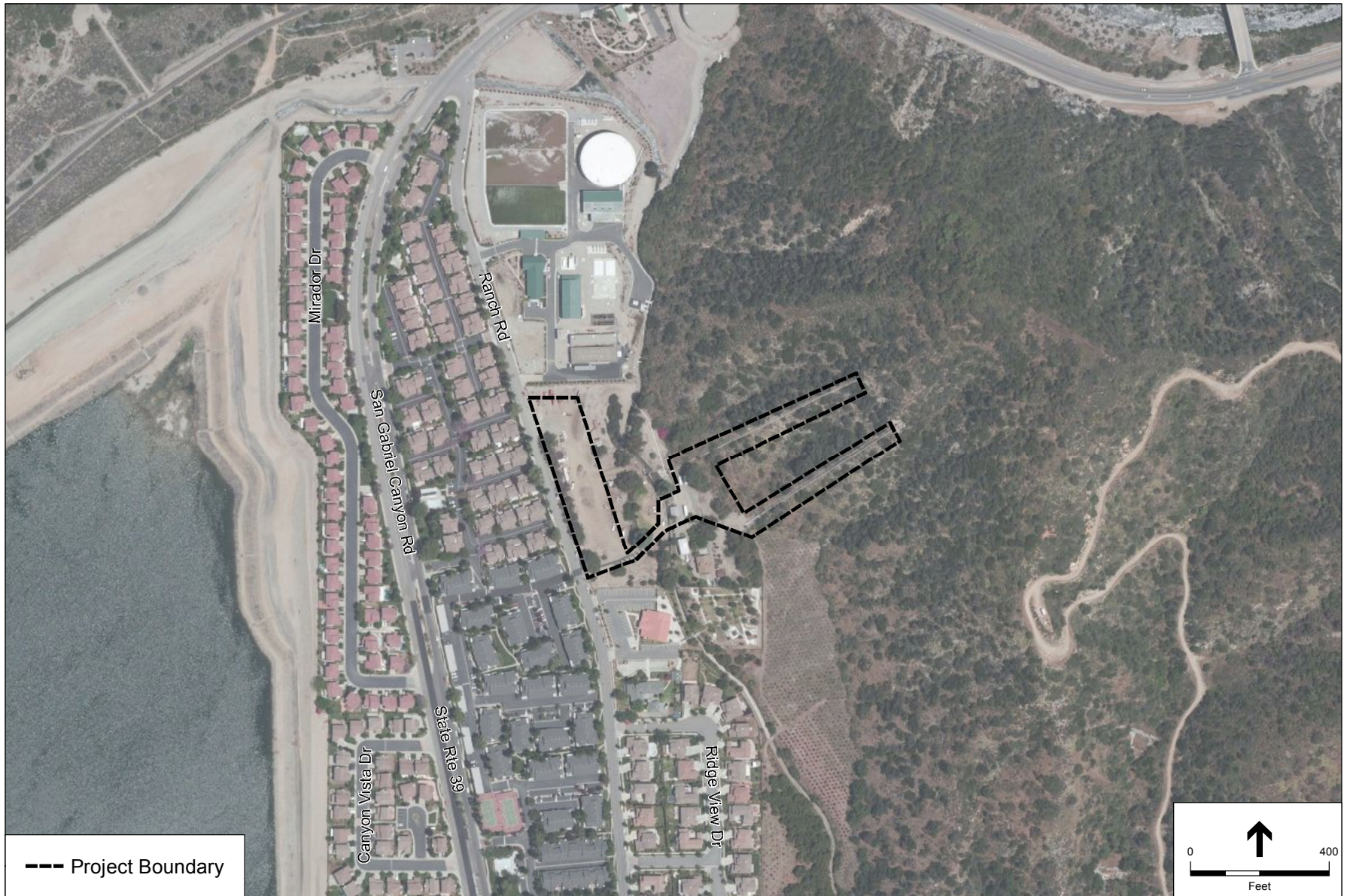
Storage and staging areas would be located at the base of Penstock pipe, within the hydroelectric plant boundaries. Access to the site is provided from I-210, via North Azusa Drive to Ranch Road; conversely from Ranch Road to North San Gabriel Canyon Road to I-210. An estimated ten to twenty truck trips are expected to deliver construction materials, and five to ten truck trips to dispose of construction debris. The maximum truck trips per day during construction would be three trips.



SOURCE: ESRI, 2012.

Azusa Hydroelectric Pipeline . 120288

**Figure 1**  
Project Vicinity



SOURCE: ESRI; ESA, 2012.

Azusa Hydroelectric Pipeline . 120288

**Figure 2**  
Project Location

## Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Register of Historic Places (National Register); CEQA; and the California Register of Historical Resources (California Register), Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of cultural resources of national, State, regional, and local significance.

## Federal

### National Register of Historic Places

The National Register was established by the National Historic Preservation Act (NHPA) of 1966, as “an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

- A. Are associated with events that have made a significant contribution to the broad patterns of our history;
- B. Are associated with the lives of persons significant in our past;
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior, 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.



## State

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions. The OHP advises recordation of any resource 45 years or older, since "there is commonly a five year lag between resource identification and the date that planning decisions are made" (OHP, 1995).

### California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, State, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and

- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

### **California Environmental Quality Act**

CEQA is the principal statute governing environmental review of projects occurring in the State and is *codified at PRC Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The *CEQA Guidelines* (Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (*CEQA Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

## **Local**

### **Los Angeles County General Plan**

The Los Angeles County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Conservation and Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources.

## **Cultural Context**

### **Prehistoric Context**

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to A.D. 1769). Within this timeframe, the archaeology of southern California is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation of a general mode of life, characterized

archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab, 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P. During the Early Holocene (11,000 to 7,600 B.P.), the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

The primary Early Holocene cultural complex in southern California was the San Dieguito Complex, which occurred between approximately 10,000 and 8,000 B.P. The people of the San Dieguito Complex inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Warren, 1984). Leaf-shaped and large-stemmed projectile points, scraping tools, and crescentics are typical of San Dieguito Complex material culture.

During the Middle Holocene (7,600 to 3,600 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. Around 7,000 B.P., Millingstone cultures appeared, characterized by the collection and processing of plant foods, particularly acorns, and the hunting of a wider variety of game animals (Byrd and Raab, 2007; Wallace, 1955).

During the Late Holocene (3,600 B.P. to A.D. 1769), native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Around 1,000 B.P., an episode of sustained drought, known as the Medieval Warm Period, occurred. While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. Although the intensity of trade had already been increasing, it now reached its zenith, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl. Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

## **Ethnographic Context**

The Project area is located at the eastern extreme of the territory of the native population known as the Gabrielino. Prior to European colonization, the Gabrielino occupied a diverse area that included the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles

basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Bean and Smith, 1978). The Gabrielino were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply and some measure of protection from flooding. Community populations generally ranged from 50-100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Houses were made of tule mats on a framework of poles (Bean and Smith, 1978). Basketry and steatite vessels were used rather than ceramics; ceramics became common only toward the end of the mission period in the nineteenth century. The Gabrielino held some practices in common with other groups in southern California, such as the use of jimsonweed in ceremonies as did the Luiseño and Juaneño, but details of the practices and the nature of cultural interaction between the Gabrielino and other groups in southern California are unknown. Maps produced by early explorers indicate the existence of at least 40 Gabrielino villages, but as many as 100 may have existed prior to contact with Europeans (Bean and Smith, 1978; McCawley, 1996). No Gabrielino villages are known to have existed within or near the Project area.

The nearest village to the Project area was '*Ashuukshanga*. The village was located at the mouth of San Gabriel River canyon, which was part of an important trade route extending from the San Gabriel Valley to the Mojave Desert (McCawley, 1996). The modern town of Azusa derives its name from '*Ashuukshanga*.

## Historic-Period Context

The earliest recorded European arrival to the Project vicinity was documented by Father Juan Crespi, with the Portola Expedition in 1769. Camping in the vicinity of Bassett, Crespi noted the river and the valley to the north, which he named the San Miguel. It was later renamed San Gabriel for the mission (Lewis Publishing Company, 1889). Azusa was part of the three mile square land grant given to Luis Arenas by the Mexican Government in 1841. Arenas built an adobe home and farmed and raised stock on what he referred to as the El Susa Rancho. In 1844, Arenas sold the rancho to Henry Dalton, an English shipping merchant, for \$7,000 and subsequently changed the name to Azusa Rancho de Dalton. Dalton established a vineyard and built a winery, a distillery, a vinegar house, a meat smokehouse, and a flour mill (City of Azusa, n.d.; Lewis Publishing Company, 1889).

In 1860, the United States Land Office sent an engineer from Washington, DC to survey the Dalton Azusa Rancho. The engineer documented the rancho as a mile and one-half short from its southern and eastern boundaries, resulting in property subject to homesteading by the Federal Government. Settlers began arriving in the newly available land, filing 40, 80 or 120 acre homesteads. Dalton borrowed money from Jonathan S. Slauson, an early Los Angeles banker, to fight the case, but after decades of litigation the courts decided against his claim. In 1880, Slauson took possession of the Azusa Rancho, and deeded a 55-acre homestead to Dalton (Lewis Publishing Company, 1889; City of Azusa, n.d.).

In 1887, Slauson laid out the town of Azusa along the line of the line of the Atchison, Topeka & Santa Fe Railroad and began the sale of lots. The original town consisted of eighty blocks of twenty-four to fifty lots each, with streets aligning north/south and east/west along compass

points. By 1889, 1,600 feet of cement sidewalks, constructed at a cost of \$15,000, lined the principal streets. Early businesses included dry goods, drugs, clothing, groceries, shoes, hardware, books and stationery, furniture, bakery, meat market, a livery stable, and a hotel (Lewis Publishing Company, 1889). By 1900, the population of Azusa had reached 863, and by 1910, the population reached 1,477 (Friedricks, 1992)

### *A Brief History of the Azusa Hydroelectric Plant and Azusa Conduit*

Hydropower (power generated by water), has been in use for millennia, but was not used to make electricity until the late 1800s following the invention of the electric generator. In 1878, England was the first country to possess a building powered with hydroelectricity. In the United States, the Schoelkopf Power Station No.1 near Niagara Falls began operations in 1881, and the first Edison hydroelectric power plant began operating in 1882 in Wisconsin. The first hydroelectric plant in the Western United States was constructed in southern California in Highgrove in 1887, followed by plants in San Antonio (1891) and Redlands (1893). By 1889, there were approximately 200 hydroelectric power plants operating in the U.S. and Canada (Tibbet, 2010).

The Azusa Hydroelectric Plant and Azusa Conduit were planned and constructed between 1892 and 1898 by the San Gabriel Electric Company. The powerhouse was originally constructed to provide power to the Azusa Ice Company, which was owned by Metcalf Dodsworth and William G. Kerckhoff. The San Gabriel Power Company incorporated in April, 1894, with Dodsworth and Kerckhoff acting on the board of directors, and three years later the company combined with the Sierra Power Company to form the San Gabriel Electric Company. The San Gabriel Electric Company originally consisted of two power plants: the San Antonio facility near Pomona and the Sierra Plant in the San Bernardino Mountains. The Azusa Hydroelectric Plant was built in 1898 and utilized water transported from the San Gabriel River via the Azusa Conduit. The California Construction Company was the primary contractor and the machinery for the generating station was to be furnished by General Electric. The 1,600-horsepower Azusa plant had an original capacity of 2,000 KW, and by 1898 produced and transmitted electricity to Los Angeles, powering streetcars and manufacturing plants. The original power plant consisted of four 300-KW Westinghouse two-phase generators and was the second two-phase plant in the United States, the first being at Niagara Falls. Two-phase electrical power was an early 20th century polyphase alternating current electric power distribution system. Two-phase power allowed for simple, self-starting electric motors, but was eventually phased out in favor of the three-phase system (Friedricks, 1992; Tibbet, 2010; IEEE Power Engineering Society, n.d.).

Just prior to the completion of the conduit and powerhouse, Kerckhoff had realized that greater profit would be in providing electricity to cities and communities, not just to the ice-making plant. Subsequently, the Company had been in negotiations with the City of Los Angeles and the City of Pasadena, and by the end of 1898 the Company was contracted to provide power to both cities (Tibbet, 2010).

In 1900, the City of Azusa started its own municipal power system and initially purchased electricity from the San Gabriel Electric Company. In 1902, the San Gabriel Electric Company was consolidated with several smaller companies to form the Pacific Light and Power Company

(PL&P), and consolidated further in 1917 to form the Southern California Edison Company (SCE). As part of ongoing efforts to provide water and power to its residents, during the 1910s and 1920s the City of Pasadena undertook the effort to construct the Pine Canyon (now Morris) Dam and Reservoir in San Gabriel Canyon. The City of Pasadena purchased various properties and water rights in the San Gabriel Canyon, but it was determined that the construction of the dam would infringe upon the Azusa Conduit, owned by SCE. SCE informed the City of Pasadena that in order to build the dam, they would have to purchase the Azusa Conduit and powerhouse from them. In 1929, voters approved the sale of bonds towards the purchase, and in 1930 the City of Pasadena signed an agreement with SCE to purchase the powerhouse and conduit. In 1932, however, prior to completion of the dam, the City of Pasadena sold the dam and reservoir to the SCEC. In 1933, the City of Pasadena officially purchased the Azusa Hydroelectric Project and Conduit from SCE (Tibbet, 2010; Friedrichs, 1992; City of Azusa, 2011).

Following the purchase, the City of Pasadena implemented several improvement projects for the plant. In the late 1930s, the City of Pasadena replaced the original open flume spillway with a new concrete pipe (now known as the Spillway Bypass). In 1948, the City of Pasadena replaced the original riveted steel pressure pipe with a new welded steel pipe (Penstock Pipeline) (Tibbet, 2010).

In 1949, construction began of a new hydroelectric power plant located south of the original facility. The replacement of the old facility was necessitated by SCE's conversion from 50 cycle power to 60 cycle power (G&E Engineering Systems Inc., 2009; *Pasadena Post*, 6/2/1941; *Pasadena Star News*, 9/29/1939 and 11/15/1939).

Although the Azusa conduit and power plant did not pioneer new technology, it was reportedly one of the first two hydroelectric stations to be built in southern California on a modern commercial basis (the other being SCE's Santa Ana River No.1 Plant). It was also reportedly the second two-phase plant in the United States after Niagara Falls (Tibbet, 2010).

#### *Early Pioneers of Hydroelectric Power in Southern California*

The following discussing summarizes biographic information from the Azusa Conduit site record completed by Casey Tibbet in 2010.

#### *William George Kerckhoff.*

William Kerckhoff (1856-1929) was born in Terre Haute, Indiana, on March 30, 1856, and relocated to California in the mid-1870s. Kerckhoff became a successful businessman and established numerous businesses, including a series of lumber yards and docks along the southern coast of California, wharves at San Pedro, large mills on the Umpqua River in Oregon, and a line of lumber vessels for transportation between Pacific Coast ports. Kerckhoff's lumber company became one of the largest enterprises in the Western United States and a leading lumber provider nationwide.

In the 1880s, Kerckhoff was part owner of the Azusa Ice Company and became interested in hydroelectric power. Between 1892 and 1898, Kerckhoff, with A.C. Balch and Henry O'Melveny,

organized the San Gabriel Electric Company. Utilizing water power from the San Gabriel River, this company generated electricity for Los Angeles, San Bernardino, and twelve other cities. In time, the San Gabriel Electric Company was merged into the PL&P, and this success led Kerckhoff and his associates to subsequently organize the San Joaquin Light and Power Corporation. This extended the company's influence to areas throughout San Joaquin Valley from Merced to Bakersfield, operating railroads in the Central Valley, electric railways and water plants in Fresno, and in 1910, beginning work on the Big Creek Power Plant in Fresno (at the time, the largest construction project in the world).

In addition to his interests in lumber and hydroelectric power, Kerckhoff also invested in natural gas, acquiring the Domestic Gas Company, which produced artificial gas, in 1910. From this company, Kerckhoff formed a new corporation called the Southern California Gas Company. Kerckhoff also formed the Midway Gas Company and constructed a 120-mile long pipeline from Kern County to Los Angeles. The Southern California Gas Company eventually expanded all over Southern California, absorbing several companies including the Midway Gas Company. In 1927, Kerckhoff led the company's largest owners in selling the Southern California Gas Company to the Southern California Gas Corporation. Kerckhoff died in Germany in 1929.

#### *Henry W. O'Melveny.*

H.W. O'Melveny (1859-1941) was born in Central City, Illinois on August 10, 1859. His father, a circuit judge, moved the family to Los Angeles in 1869. Henry graduated from the University of California, Berkeley in the 1870s, later studying law and gaining admittance to the California Bar in 1881. On January 2, 1885, 26-year-old Henry W. O'Melveny and Jackson Graves formed the Firm of Graves & O'Melveny. This firm underwent a series of name changes, finally settling on O'Melveny & Myers in 1939, which is now the oldest law firm in Los Angeles. William G. Kerckhoff became an early client and working together O'Melveny and Kerckhoff were instrumental to the success of the Azusa Conduit project. O'Melveny and Kerckhoff partnered on a number of projects, including the development of hydroelectric energy and natural gas in Southern California, until Kerckhoff's death in 1929. O'Melveny remained actively involved in his law firm until his death in 1941.

#### *Allan Christopher Balch.*

A.C. Balch was born in Valley Falls, New York, March 13, 1864. Following graduation from Cornell University in 1889, he moved to Seattle where he became a member of the firm of Baker, Balch, and Company and a director and general manager of the Home Electric Company (later the Union Electrical Company). Balch moved to Los Angeles in 1896, and became one of the founders of the San Gabriel Electric Company in 1897 along with William Kerckhoff and Henry O'Melveny. Balch acted as the General Manager of both the Pacific Light and Power Company and the Southern California Gas Company, and Vice President of the San Joaquin Light and Power Corporation, and was also a principal in the Sierra Power Company and the Mentone Power Company. In 1913, as part of Midway Gas Company, Balch was instrumental in the construction of a pipeline that brought natural gas into Los Angeles for the first time. He also



oversaw the construction of the Big Creek Power Plant in Fresno, the Kern River Plant, Redondo Steam Plant, and a number of others.

## Cultural Resources Methods and Results

This Phase 1 Cultural Resources study includes (1) archival research, (2) a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, and (3) a pedestrian survey. The following section summarizes the methods and results of the study.

### Archival Research

A records search for the Project was conducted on July 10, 2012 at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded archaeological sites within a ½-mile radius of the Project area, as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register, the National Register, and the California State Historic Resources Inventory (HRI) listings were reviewed for properties within or adjacent to the Project area.

The records search indicated that a total of 12 cultural resources studies have been previously conducted within a ½-mile radius of the Project area (Table 1). Of these 12 studies, one included portions of the Project area. Approximately 20 percent of the Project area appears to have been included in the past cultural resources study.

**Table 1**  
**Previous Cultural Resources Investigations Conducted within ½ Mile of the Project Area**

Author	SCCIC # (LA-)	Title	Date
Alexandrowicz, John S.	04723	A Historical Resources Identification Investigation for Tentative Tract No. 52800, City of Azusa, County of Los Angeles, California	1999
Alexandrowicz, John S.	08069	Architectural History of the Misty Canyon Ranch, City of Azusa, Los Angeles county, California	2000
Allen, Kathleen C.	06690	Report of Phase I Archaeological Assessment for the Covell Ranch Project Area, City of Azusa	1999
Allen, Kathleen C.	06696	Report of Phase I Archaeological Assessment for the Covell Ranch Project Area, City of Azusa	1999
Brasket, Kelli S.	10172	Glendora Ridge Motorway and Van Tassel Road Maintenance Project	2006
Cornejo, Jeffrey Lawrence, Jr.	10442	Condition #55 of the Monrovia Nursery Mitigation Monitoring and Reporting Program and Conditions of Approval	2005
Farrell, Nancy	08073	Monrovia Nursery Project Cultural Resources Investigation	1992
Messick, Peter	07176	Selected Archaeological Investigations for the San Gabriel River Project Master Plan	2003
Sriro, Adam	07838	Proposes a 45mm Cold Plane and 45mmRac Overlay for the Mainline and Overlay of All Existing Paved Turnouts on Route 39 in Los Angeles County	2001

**Table 1**  
**Previous Cultural Resources Investigations Conducted within ½ Mile of the Project Area**

Tibbet, Casey	11304*	Historic Resources Assessment, Azusa Conduit Repair Project, Los Angeles, County, California	2010
Wlodarski, Robert J.	08068	Draft Report: Peer Review of the Monrovia Nursery Project Cultural Resources Element	1996
Zahniser, Jack L.	01283	Cultural Resources Element for Foothill Dairy EIR, Azusa, California	1983

\*Indicates study overlapping APE

A total of four cultural resource sites have been previously recorded within ½ mile of the Project area (Table 2). All four are historic built environment resources (Covina Canal, Glendora Ridge Motorway, Azusa Conduit, and a ca. 1930s craftsman style residence). One of these resources, the Azusa Conduit (P-19-188902) is located in the Project area; and one, the Covina Canal (P-19-002777), is located adjacent the Project area.

**TABLE 2**  
**PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 1/2 MILE OF THE PROJECT AREA**

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Designation	Description	Date Recorded
-	002777**	-	Historic irrigation site – Covina Canal, a concrete-lined ditch with a concrete stand pipe and pump house	1999
-	186107	-	Historic building – ca. 1930s craftsman style residence	1999
-	188290	-	Historic road – Glendora Ridge Motorway with granite and cement retaining walls and gate posts	2005
-	188902*	-	Historic structure - Azusa Conduit, a solid rock tunnel lined with concrete, 1892-1898	2010

\*Indicates within Project area

\*\*Indicates adjacent Project area

*The Covina Canal (P-19-002777).*

The Covina Canal is a 5.5-mile long concrete irrigation canal, averaging four feet deep and four to eight feet wide. The Azusa Water Development and Irrigation Company, a private water company, established in 1882, had constructed the Covina Canal by 1884 to improve water services in the Azusa, Glendora, and Covina area by bringing water from the San Gabriel River. The Company constructed the canal at a cost of \$40,000. In its more than 125 years in use, the Covina Canal has undergone extensive alteration, including rerouting and the reconstruction of the southern half of its length in underground pipes constructed in the 1970s (Hunt, 2006).

Although previously recorded in 1999, the Covina Canal has not been previously evaluated for its historical resources significance under either the National or California Registers.

### *The Azusa Conduit (P-19-188902)*

The Azusa Conduit is a 5.8-mile long tunnel and box culvert located in the San Gabriel Mountains that conveys water from the San Gabriel Dam to the Azusa Hydroelectric Power Plant. Much of the conduit was constructed between 1892 and 1898, including the abandoned segment located in the Project area which was later replaced in 1948 by the Penstock Pipeline. Various segments of the Azusa Conduit are constructed of hard rock tunnel, redwood stave flume, or steel pipe. Beginning in the mid-1930s when the Morris Dam was built, the old flume and steel pipe was abandoned, and most of the conduit upgraded with concrete encasement. At least one section was rerouted deeper into the hillside (Roach, 2008; Tibbet 2010).

The Azusa Conduit was previously evaluated and recommended eligible by LSA for the National Register and California Register at the regional level under Criteria A/1 and B/2 for its associations with early hydroelectric power development and hydroelectric pioneers William G. Kerckhoff, Henry O'Melveny, and Allan C. Balch (Tibbet, 2010). The success these three men and their associates had with construction of the Azusa Conduit and the related Azusa Hydropower Plant, was the first step in their extremely successful development of hydroelectric power throughout Southern California and led to the formation of various companies including the well-known Pacific Light and Power Company and the Southern California Gas Company.

## **Sacred Lands File Search**

A Sacred Lands File Search for the Project area was requested by ESA from the Native American Heritage Commission (NAHC) on July 10, 2012. The results of this search, provided by the NAHC on July 10, 2012 failed to indicate the presence of Native American cultural resources within ½ mile of the Project area. However, the NAHC cautioned that there are Native American cultural resources in close proximity to the Project area, although no specific location information was provided.

Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the Project area to solicit information on the whereabouts of resources in the Project vicinity. Follow-up correspondence consisted of a letter sent via certified mail on July 30, 2012 describing the proposed Project and a map indicating the Project area. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the proposed Project. To date, one response has been received, from Andy Salas of the Gabrielino Band of Mission Indians. Mr. Salas stated that the Project area was located in the Gabrielino village of Azusangna and was considered a highly culturally sensitive area. Mr. Salas requested that a Native American monitor be on site during ground disturbing activities. Documentation pertaining to Native American contact is attached as Appendix B.

## **Field Survey**

ESA conducted field survey of the Project area on August 14, 2012. The survey was conducted by ESA archaeologists Madeleine Bray, M.A., R.P.A. and Monica Strauss, M.A., R.P.A.

## Survey Methods

All accessible areas of the Project area with adequate ground visibility were subject to intensive pedestrian survey. Survey conditions varied, with portions of the Project area paved and others covered with gravel; approximately 30 percent of the ground surface within the Project area was visible. The areas immediately adjacent to the Penstock and Spillway Bypass pipelines were not systematically surveyed, due to the extreme steep slope. Where slope and visibility permitted, survey was conducted in transects of no greater than 15 meters (50 feet). Surveyors observed numerous disturbances, including past grading, road paving, and landscaping.

Any cultural resources encountered during the survey were documented and recorded on the appropriate California Department of Parks and Recreation (DPR) 523 forms. Each newly recorded resource was given a temporary field designation, then documented, photographed, and recorded. Isolated historic artifacts and modern (post-1967) features were not recorded and such objects and features are not considered cultural resources for the purpose of this analysis.

## Survey Results

Surveyors encountered no archaeological resources in the Project area. Surveyors encountered four historic-period resources in the Project area as a result of field survey: three features associated with the previously recorded Azusa Conduit (P-19-188902), and a newly recorded mid-century corrugated metal storage shed (temporarily designated ESA-AZU-3). Two of the features associated with the Azusa Conduit, the 1948 Penstock Pipeline and 1939 Spillway Bypass Pipeline, were originally given the temporary designations ESA-AZS-1 and ESA-AZS-2; however, these designations were discontinued once the features' association with the Azusa Conduit was realized.

Surveyors also relocated the Covina Canal (P-19-002777) outside of but immediately north of the Project area. Surveyors also identified a new resource described as a historic landscape (ESA-AZS-4), possibly associated with the period of the original Azusa hydroelectric plant (circa 1898). Surveyors documented the Covina Canal and historic landscape (ESA-AZS-4), but no additional evaluation or analysis was completed, as both are located outside of the Project area and will not be impacted by the Project.

DPR 523 forms for each of the recorded resources are attached in Appendix B. Update 523 forms were completed for the Covina Canal (P-19-002777) and Azusa Conduit (P-19-188902), and new DPR forms were completed for the storage shed (ESA-AZU-3) and the historic landscape (ESA-AZU-4). The resources are described below. Figure 3 shows the location of the resources.

Figure 3 (Confidential: See Appendix D)

## **Covina Canal**



SOURCE: ESA, 2012

Azusa Hydroelectric Project 120288

**Plate 1**  
Covina Canal (View to north)

A 100-foot long open-air segment of the Covina Canal (P-19-002777) is located adjacent the Project area. The canal is concrete-lined and is approximately six feet wide and four feet deep. The Azusa Water Development and Irrigation Company constructed the Covina Canal by 1884 to improve water services in the Azusa, Glendora, and Covina area. The segment of the canal is located just adjacent the proposed Project area to the north and will not be impacted by the Project. Because the resource lies outside of the Project area, ESA staff prepared a DPR form update, but did not conduct any additional evaluation or analysis of this resource. For the purposes of this Project, this resource is considered eligible for the California Register. The DPR update is included in Appendix C.

**Azusa Conduit (P-19-188902)**

Three components of the Azusa Conduit (P-19-188902) – the 1898 riveted metal penstock pipe, the 1948 Penstock Pipeline, and the 1939 Spillway Bypass Pipeline - were recorded within the Project area. These are each described in detail below. An updated DPR form for resource P-19-188902 is included in Appendix C.



SOURCE: ESA, 2012

Azusa Hydroelectric Project 120288

**Plate 2**

1898 Azusa Conduit (View to northeast)

**1898 Riveted Steel Penstock Pipe**

An original segment of the Azusa Conduit (P-19-188902), constructed of riveted steel, is located within several feet of the Penstock Pipeline. The length of the segment is undetermined because the majority of the conduit is buried. This segment of the Azusa Conduit likely represents the original penstock pipe, constructed around 1898.

## 1948 Penstock Pipeline



SOURCE: ESA, 2012

Azusa Hydroelectric Project 120288

### Plate 3

#### 1948 Penstock Pipeline (View to northeast)

This resource consists of the 1948 Penstock Pipeline constructed to replace the original riveted steel penstock segment of the Azusa Conduit extending up the hillside to the east of the Azusa Hydroelectric Plant. The City of Pasadena constructed the Penstock Pipeline just prior to the construction of the 1949 replacement hydroelectric plant. The resource consists of a 38-inch diameter welded steel pipeline supported by steel rings and concrete blocks. The Penstock Pipeline measures approximately 800 feet from where it exits the forebay to where it enters the powerhouse, dropping 390 feet in elevation. Where it is above ground the Penstock Pipeline is supported on 19 steel ring supports on rockers which in turn are supported on 5-foot wide concrete anchor blocks embedded into the hillside. The visible segment of the Penstock Pipeline within the Project area measures approximately 500 feet in length.



## Spillway Bypass Pipeline



SOURCE: ESA, 2012

Azusa Hydroelectric Project 120288

### Plate 4

#### 1939 Spillway Bypass Pipeline (View to the East)

This resource consists of a reinforced concrete pipe with a diameter of approximately 40 inches, with segment lengths of approximately 8 feet. The segment of Spillway Bypass Pipeline within the Project area measures approximately 560 feet in length.

The Spillway Bypass Pipeline was designed in 1936 and constructed by 1939. It replaced the original open concrete flume spillway built circa 1898.

*Storage Shed (ESA-AZS-3)*



SOURCE: ESA, 2012

Azusa Hydroelectric Project 120288

**Plate 5**

ESA-AZS-3, Storage Shed (View to south)

This resource consists of a single story, rectangular structure with a side gable roof. The building footprint measures approximately 45 feet (n/s) by 25 feet (e/w), and the exterior walls and roof are covered with corrugated metal panels.

Based on post-WWII period construction style and the fact that the storage shed first appears on historic aerials dating to 1954, it is presumed that it was constructed concurrent with the construction of the new powerhouse in 1949. A DPR form for this resource is included in Appendix C.

*Historic Landscape (ESA-AZS-4)*



SOURCE: ESA, 2012

Azusa Hydroelectric Project 120288

**Plate 6**

ESA-AZS-4, Historic-Period Landscape (View to northwest)

The resource is located adjacent to the Project area and consists of the archaeological remnants of a historic landscape possibly associated with early hydroelectric power generation. The primary resource area consists of: three cobble masonry retaining walls; one cobble-lined well or cistern; one cobble-lined pathway or roadway; one wooden pedestrian bridge crossing the Covina Canal with a “No Trespassing” sign affixed to its north side; one cement pad, one abandoned 2-foot diameter steel pipe; and a cobble masonry pipe base. The ancillary feature located down the slope from the primary resource area consists of a board-poured concrete flume. The primary resource area measures approximately 120 feet N/S and 90 feet E/W and is located in close proximity to the Covina Canal and pond. The flume appears to line up roughly with the route of the Azusa Conduit Bypass Pipeline located on the hill to the east.

A review of historic topographic maps implies that this landscape may have been the site of the original Azusa hydroelectric plant (constructed circa 1898), demolished following the construction of the replacement plant in 1949. This resource is located outside of the Project area, and no additional analysis or evaluation was completed. A DPR form for this resource is attached in Appendix C.

## Evaluation of Resources

As part of this study, the significance of resources P-19-188902 and ESA-AZS-3 were evaluated by applying the California Register eligibility criteria provided in PRC Section 5024.1[c]. To be eligible for the California Register, a prehistoric or historic-period resource must be determined to be significant at the local, State, and/or federal level under at least one of the four eligibility criteria and must retain enough of its historic character or appearance to be recognizable as a historical resource and to convey the reasons for which it is determined significant. Resource ESA-AZS-4 and the Covina Canal (P-19-002777) were not evaluated, as they are located outside of the Project area and will not be impacted by the proposed Project. They are assumed eligible for the California Register for the purposes of this Project.

### **Azusa Conduit (P-19-188902)**

Three features associated with the Azusa Conduit (P-19-188902) were recorded within the Project area. The Azusa Conduit was previously evaluated and recommended eligible by LSA for the National Register and California Register at the regional level under Criteria A/1 and B/2 for its associations with early hydroelectric power development and hydroelectric pioneers William G. Kerckhoff, Henry O'Melveny, and Allan C. Balch (Tibbet, 2010). The success these three men and their associates had with construction of the Azusa Conduit and the related Azusa Hydropower Plant was the first step in their extremely successful development of hydroelectric power throughout Southern California and led to the formation of various companies including the well-known Pacific Light and Power Company and the Southern California Gas Company.

All three of the features recorded within the project area, the 1898 riveted steel pipe, the 1948 Penstock Pipe, and the 1939 Spillway Bypass Pipe, date to the period of significance and contribute to the resource's eligibility for the National Register and California Register.

### **Storage Shed (ESA-AZS-3)**

Resource ESA-AZS-3 is recommended not eligible for listing in the California Register and does not otherwise meet CEQA's definitions for a historical resource. This resource consists of a single-story shed constructed sometime prior to 1954, possibly in conjunction with the construction of the second Azusa hydroelectric plant in 1949. The shed appears to maintain sufficient physical integrity, including integrity of location, setting, design, feeling, association, materials and workmanship. The increased nearby residential development has somewhat altered the resource's integrity of setting. While the shed is associated with the development of hydroelectric power during the post-war period, the resource does not appear to possess a unique association with early hydroelectric power development in southern California. Archival research did not indicate any association between the shed and known historical persons. As such, the shed does not appear to be individually significant as an historical resource under California Register Criterion 1 or 2 (Association with Events or Individuals). The corrugated metal shed reflects a vernacular style typical of industrial facilities. The building does not appear to embody the distinctive characteristics of a type, period, or method of construction and possesses no distinguishing design or artistic values (California Register Criterion 3). The building does not

appear to have the potential to yield information important in history (California Register Criterion 4). For these reasons, resource ESA-AZS-3 is recommended not eligible for listing in the California Register and is not recommended a historical resource under CEQA. No further work is recommended for this resource.

## Summary and Recommendations

Field survey and archival review identified four historic-period resources within the Project area including: three features related to the Azusa Conduit (P-19-188902) and a storage shed (ESA-AZS-3). The Azusa Conduit was previously recommended eligible for listing in the National Register and California Register and is considered a significant resource under CEQA. The three components of the Azusa Conduit located within the Project area date to the period of significance and contribute to the resource's eligibility for the National Register and California Register. However, impacts to the resource would be minimal. The 1898 riveted steel penstock pipe segment would be avoided during project construction. In addition, modifications to the Penstock or Spillway Bypass Pipeline, which would consist largely of modifications to support structures, would not materially impair the significance of the Azusa Conduit, nor would it alter those qualities which make the resource eligible for listing in the National Register and California Register. The Project would not affect the resources integrity of location, design, setting, materials, workmanship, feeling, or association. The Project would have a less-than-significant impact to the Azusa Conduit. Nonetheless, avoidance and protective measures related to the Azusa Conduit are provided below (see Recommendations #1 and #2).

Resource ESA-AZS-3 is recommended not eligible for listing in the California Register and is not recommended significant under CEQA. No further work is recommended in connection with this resource.

The Covina Canal (P-19-002777) and a historic-period landscape identified as ESA-AZS-4 are located immediately adjacent the Project area. Although neither resource has been formally evaluated, both are considered eligible for the California Register for the purposes of this Project. Because of their close proximity to the Project area, avoidance and protective measures related to these resources are provided below (see Recommendations #1 and #2).

Survey identified that the Project area has been subject to substantial disturbance. In addition, the minimal level of ground disturbance proposed for the Project makes it unlikely that previously unknown cultural resources could be uncovered. Most Project construction activities would occur above-ground, and would not disturb native soil. Project ground-disturbing activities appear to be limited to the removal of soil and debris from Penstock rocker supports that have become buried, and installation of small diversions to prevent future accumulation of debris around the rockers.

Nonetheless, the Project has the potential, although very low, to disturb buried archaeological resources. For this reason, Recommendations #2 and #3 below should be implemented.

**Recommendation #1 - Avoidance and Fencing:** Prior to the initiation of construction or ground disturbing activities, a temporary impenetrable, highly visible protective covering shall be placed and secured around the 1898 riveted steel Azusa Conduit pipeline where it is located adjacent to the construction work areas, for the purpose of preventing inadvertent impacts to the resource during the construction period. Similarly, temporary fencing shall be installed at any access points to the area of the Covina Canal and ESA-AZS-4 for the purpose of preventing inadvertent access or impacts to these resources during the construction period. The impenetrable covering and temporary fencing shall be removed following the completion of construction. Proposed locations of protective fencing are provided in Figure 4.

**Recommendation #2 - Construction Worker Cultural Resources Sensitivity Training:** Prior to earth moving activities, a qualified archaeologist meeting the Secretary of the Interior's qualifications standards for archaeology shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed as to areas to be avoided (Covina Canal, 1898 riveted steel penstock pipe related to the Azusa Conduit, and ESA-AZS-4). Construction personnel shall also be informed of the proper procedures to be enacted in the event of an inadvertent archaeological discovery. Construction personnel will also be informed of the proper procedures to be enacted in the event of an inadvertent archaeological discovery (Recommendation #3).

**Recommendation #3 - Inadvertent Discoveries:** In the event of the discovery of historical or archaeological materials, the contractor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation, the contractor shall immediately contact the City of Pasadena. The contractor shall not resume work until authorization is received from the City.

In the event of an unanticipated discovery of archaeological materials during construction, the City shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction-related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, avoidance is the preferred manner of mitigation. In the event avoidance is demonstrated to be infeasible, the City shall implement an archaeological data recovery program.

If potential human remains are encountered, the contractor shall halt work in the vicinity (within 100 feet) of the find and shall contact the Los Angeles County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If the Coroner determines the remains are Native American in origin, the Coroner shall contact the Native American Heritage Commission (NAHC). As provided in Public Resources Code Section

5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent shall be afforded the opportunity to provide recommendations concerning the future disposition of the remains and any associated grave goods as provided in PRC 5097.98.

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Figure 4 (Confidential: Appendix D)



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# **APPENDIX A**

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## Resumes

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## MONICA STRAUSS, MA, RPA

Director, Senior Managing Archaeologist

Monica Strauss is the Director of ESA's Southern California Cultural Resources Group and is based in the Los Angeles office. She has 15 years of experience in cultural resources management and has directed numerous archaeological investigations throughout Southern California and the Channel Islands. She directs prehistoric and historic field and research projects for public agencies and private developers and is proficient in CEQA and Section 106 compliance. She manages a staff of cultural resources specialists who conduct various types of compliance work including phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Monica has prepared technical documents meeting the requirements of federal, State, and local agencies in support of CEQA and Section 106 as well as cultural resources components for General and Specific Plans. She provides senior oversight and quality control of archaeological resources-focused documents for ESA staff throughout the State.

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### Education

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

### 15 Years of Experience

### Professional Affiliations

Register of Professional Archaeologists (RPA)

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

### Specialized Experience

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

### Qualifications

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Certified in CA BLM Protocol

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### Relevant Experience

#### **Helix Water District (HWD)-El Monte Valley. San Diego County, CA.**

***Cultural Resources Principal Investigator.*** ESA is providing professional Environmental Consulting services in support of the HWD's El Monte Mining, Reclamation, and Groundwater Recharge Project. The project includes mining of approximately 10 million tons of aggregate from the El Monte Valley in San Diego County. Monica is currently directing the cultural resources component of this project to insure it complies with CEQA, Section 106 and the County of San Diego, Guidelines for Determining Significance. Duties involve providing oversight to the managements team and coordination with the client on key issues including Section 106 requirements and Native American issues.

#### **Metropolitan Air Park. San Diego, CA. *Cultural Resources Principal Investigator.***

ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned Development Permit Project. Monica is currently directing the cultural resource component of this project. Her duties involve coordination with the City of San Diego to ensure compliance with the City of San Diego Historical Resources Guidelines and oversight of survey and identification methods and resource evaluations.

#### **Sunrise Powerlink Transmission Archaeological and Biological Monitoring. Imperial and San Diego counties, CA. *Cultural Resources Project Manager.***

## **Relevant Experience (Continued)**

ESA was retained by Burns & McDonnell to conduct archaeological and biological monitoring during construction activities for a 120-mile long SDG&E transmission line. Monica is currently serving as lead archaeologist to a team of archaeological monitors who are attending compliance and field safety training and who will be on-call during construction activities.

**Sorenson Park Gymnasium Archaeological Monitoring. Lake Los Angeles, CA. *Cultural Resources Principal Investigator.*** ESA was retained by the County of Los Angeles, Department of Public Works to conduct archaeological and biological monitoring during ground disturbing activities associated with project construction. Monica is currently providing daily oversight to archaeological and Native American monitors, coordinated work schedules with the County Project Manager, and coordinated the details of the necessary monitoring work with the County Inspector and construction contractors. An Archaeological Resources Monitoring Report documenting the monitoring findings will be submitted, together with daily monitoring logs, at the close of the project

**Cadiz Groundwater. San Bernardino County, CA. *Cultural Resources Principal Investigator.*** ESA was retained by Cadiz Land Company, Inc. to prepare an EIR in connection with a water supply project in Cadiz Valley of the Mojave Desert. Monica directed a Phase 1 archaeological resources assessment including literature review, 42-mile long pedestrian survey, and Native American outreach to meet CEQA compliance requirements. An Archaeological Resources Technical Report was prepared that evaluated the California Register eligibility of over 40 historic-period archaeological sites that had been identified as a result of the investigation. The results of the technical report were incorporated into the EIR which included an impacts analysis and appropriate mitigation measures.

**Antelope Valley Water Bank Initial Recharge and Recovery Facility Improvement. Kern County, CA. *Cultural Resources Principal Investigator.*** ESA was retained by GEI Consultants, Inc. to conduct a Phase I Archaeological resources Assessment in connection with a groundwater banking project designed to provide up to 500,000 acre-feet of total surface water storage capacity underground in a partially depleted aquifer. The project is being carried out by the Antelope Valley East Kern Water Agency with the assistance of a Challenge Grant from the Bureau of Reclamation. Monica directed archaeologists who conducted archival research, pedestrian survey, Native American outreach to identify the presence of archaeological resources. A technical report was prepared to meet CEQA and Section 106 compliance requirements.

**Ocotillo Wind Farm Project EIR. Imperial County, CA. *Project Manager.*** ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring

## **Relevant Experience (Continued)**

for projects under BLM jurisdiction. Monica is specially trained in BLM protocols and procedures. She is currently assisting BLM (El Centro Field Office) staff with general oversight of the 15,000-acre cultural resources study being carried out for the Ocotillo Wind Farm project. Monica has conducted peer-review of cultural resources documents to ensure conformance with BLM requirements and is providing oversight to survey staff who are conducting compliance monitoring of the survey effort.

**Bureau of Land Management On-Call Cultural Resources Services. Riverside County, CA. *Project Manager.*** ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is currently managing a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Phase I archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation. Projects completed under this contract include Dos Palmas Phase I Survey and Archaeological Monitoring, National Monument Phase I Survey, Windy Pointe Archaeological Monitoring, and Fast and the Furious Phase I Survey.

**Canyon Hills Cultural Resources Assessment. Lake Elsinore, CA. *Cultural Resources Principal Investigator.*** ESA was retained by Pardee Homes to prepare a cultural resources assessment for Phases VII and VIII of the Canyon Hills Specific plan. ESA conducted a Phase I and Phase II Archaeological Resources Investigation, identifying resources that might be impacted by the project. Monica directed the Phase II Testing Program to determine California Register and National Register eligibility of a recorded prehistoric archaeological site. She co-authored the Phase II Testing Research Design and Phase II Testing Evaluation Report.

**CPUC Devers-Mirage. Palm Springs, CA. *Cultural Resources Senior Oversight.*** ESA was retained by the California Public Utilities Commission to prepare an EIR to evaluate the potential impacts from Southern California Edison's proposed Devers-Mirage 115 kV System Split project. ESA cultural resources staff reviewed and synthesized technical documents and prepared a cultural resources EIR section that provided an impacts analysis and mitigation measures. Because the project involved BLM lands, cultural resources studies were required to meet NEPA requirements in addition to CEQA. Monica provided technical oversight of the cultural resources effort and conducted quality control review of the document.

**Hellman Ranch Archaeological Resources Monitoring and Data Recovery. Seal Beach, CA. *Field Director.*** John Laing Homes constructed the Heron Point housing development in Seal Beach. Monica directed a large-scale

## Relevant Experience (Continued)

excavation and monitoring program under the terms of a Mitigation Plan approved by the California Coastal Commission. She coordinated the daily excavation and monitoring activities of over twenty archaeological field personnel over a period of two years. She worked closely with a staff of eight Native American monitors and assisted in the preparation of remains artifacts for reburial. She also oversaw identification and cataloging activities that took place simultaneously on the job site in a field laboratory. On-site activities included hand excavation at four archaeological sites, construction monitoring, wet and dry-screening, and laboratory analysis, and also involved the evaluation of complex shell midden deposits and appropriate treatment of human remains.

**San Clemente Island Section 106 Archaeological Testing and Evaluation Program. Los Angeles, CA. *Project Director.*** Working for the U.S. Navy, Southwest Division, Monica directed a team of archaeologists who conducted testing of nine prehistoric archaeological sites on the northern end of San Clemente Island. Testing was conducted in accordance with guidelines set forth by the U.S. Navy and in compliance with Section 106. She authored a comprehensive technical report which considered the results of the testing program in relation to current California coast and San Clemente Island research questions and evaluated the sites for eligibility for the National Register.

**Metro Universal Phase I Archaeological Resources. North Hollywood, CA. *Project Director.*** Working as a consultant for Thomas Properties Group, Monica directed archaeological resources assessment for the proposed Metro Universal project to be constructed adjacent the historic *Campo de Cahuenga* in North Hollywood. She conducted extensive literature review and archaeological survey and prepared an archaeological technical report and EIR section. Working with project engineers, she developed a scaled approach to identify varying degrees of cultural resources sensitivity across the project site and determined appropriate mitigation measures. She worked with engineers and landscape designers to inform the design to best enhance existing cultural resources. Monica attended monthly meetings with the *Campo de Cahuenga* Board of Representatives and the Thomas Properties team to address cultural resources concerns.

**First Street Trunk Line Archaeological Monitoring and Assessment. Los Angeles, CA. *Project Director.*** As a consultant to the City of Los Angeles, Department of Water and Power, Monica directed archaeological and paleontological monitoring of utilities installations on a continuous basis for over one year. She responded to monitoring discoveries including historic-period utility pipes and determined the appropriate mitigation in the form of recordation.

**Main Street Archaeological/Paleontological Monitoring and Assessment, Los Angeles, CA. *Project Director.*** Working for the City of Los Angeles, Bureau of Engineering, Monica directed archaeological/paleontological

## **Relevant Experience (Continued)**

monitoring during the construction of a police parking facility in downtown Los Angeles. She managed monitors and conducted client coordination. She responded to discoveries of over a dozen in tact historic building basements and other refuse deposits to determine appropriate treatment. She provided oversight to specialists conducting analysis of the artifacts recovered and managed the preparation of a report that documented the findings and evaluated the resources.

**Olive View Medical Center Emergency Services Expansion Monitoring and Assessment. Los Angeles, CA. *Project Director.*** Working for the City of Los Angeles, Department of Public Works, Monica directed archaeological monitoring and a Phase I cultural resources assessment in support of an EIR for medical center expansion in Sylmar. Two historic resources were identified and determined not significant under CEQA. Monica responded to a discoveries made by construction personnel and determined prehistoric artifacts were present in native soil within the project area.

**Temple Street Widening Archaeological Monitoring and Assessment. Los Angeles, CA. *Project Director.*** Working for the City of Los Angeles, Department of Public Works, Monica directed archaeological monitoring conducted during the widening of Temple Street in downtown Los Angeles. She conducted extensive coordination with general and sub contractors and responded to discoveries including and segment of the zanja irrigation ditch and a large historic refuse deposit to determine appropriate treatment. She developed mitigation and monitored the implementation of mitigation for the zanja including concrete capping and the installation of an interpretive plaque.

**Exposition Corridor Transit – Phase II Phase I Archaeological Assessment. Los Angeles CA. *Project Director.*** Monica directed archaeological, historic architectural, and paleontological resources assessment in compliance with CEQA and Section 106 regulations. Project involved archaeological, paleontological, and historic architectural survey of six- mile alignment, production of APE maps, consultation with SHPO and the preparation of technical reports and EIR sections.

**Van Norman Chloramination Station Archaeological/Paleontological Monitoring. San Fernando CA. *Project Director.*** Working for the City of Los Angeles, Department of Water and Power, Monica directed archaeological/paleontological and Native American monitoring during project construction. Resources identified during monitoring were assessed for significance under CEQA.

**Lang Ranch Community Park Phase I Archaeological Testing and Assessment. Thousand Oaks, CA. *Project Director.*** Working for the Conejo Park and Recreation District, Monica directed a Phase I archaeological survey of the 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits and coordination with Native American representatives. Monica prepared an



## Relevant Experience (Continued)

Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA requirements.

**Home Depot Monitoring and Assessment. Lake Elsinore, Riverside County, CA. *Project Director.*** As a consultant to Twining Laboratories, Monica directed archaeological monitoring of Caltrans road-widening in the vicinity of a historic cemetery and coordinated her findings with Caltrans.

**Ivy Street Bridge Phase I and Extended Phase I Archaeological Resources Testing and Evaluation. Murrieta, CA. *Project Director.*** Working for T.Y. Lin and the City of Murrieta on a project that proposed to construct a bridge over Murietta Creek, Monica directed an Extended Phase I Testing Program in compliance with Section 106 review. She coordinated with Caltrans to meet Section 106 compliance and evaluated project effects on a nearby ethnohistoric Native American site. Monica coordinated extensively with Native American representatives and developed appropriate mitigation to be carried out prior to and during construction.

## Public Outreach and Education

2008. Public Outreach speaker at Chinese Historical Society meeting. Project: Central Los Angeles High School #9. Client: Los Angeles Unified School District.

2006. Guest lecturer at Laurel Hall Elementary and Middle School regarding archaeology in southern California, North Hollywood, CA.

2003. Volunteer lecturer and field advisor at San Clemente Island Field School.

2003. Key speaker at Seal Beach Historical Society community outreach meeting regarding findings from the Hellman Ranch Archaeological Sites, Seal Beach, CA.

2002. Guest lecturer at Rosemead Elementary School regarding career opportunities in cultural resources management, Rosemead, CA.

1998–2000. Appointment at California State University, Northridge, Anthropology Department. Directed undergraduate peer student advisement center, counseled students regarding course selection graduation preparation, and employment opportunities.



# MADELEINE BRAY, RPA

Archaeologist

Madeleine Bray is an archaeologist and cultural resources project manager with 10 years of survey, excavation and mapping experience related to historically significant sites. She has managed numerous projects in California in compliance with CEQA and with Section 106 of the National Historic Preservation Act, including Phase I surveys, site significance testing and evaluation, mitigation recommendations, and archaeological construction monitoring. She has worked extensively throughout southern California, with particular experience in the context of the Mojave and California deserts, historic mining sites, and historic artifacts. She is currently involved in several fieldwork efforts in Los Angeles County. Internationally, she has participated in the excavation of a Roman temple in Omrit, Israel, and in the pedestrian and geophysical survey of Sikyon, an important urban site in Greece.

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## Relevant Experience

### Education

M.A., Archaeology, University of California, Los Angeles

B.A., Classical Archaeology, Macalester College, Saint Paul, Minnesota

### 11 Years Experience

### Professional Affiliations

Register of Professional Archaeologists

Society for American Archaeology

### Qualification Summary

Meets Secretary of the Interior's Standards

Riverside County certified

CA State BLM Permitted

Certified in CA BLM Protocol

### Continuing Education

ACHP Section 106 Basics seminar

Riverside County certification course, 2007 and 2009

, 2004

**Bureau of Land Management, On-Call Cultural Resources Services, Riverside County, CA. *Archaeologist.*** ESA has been retained by the Bureau of Land Management (BLM) under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Madeleine has participated in a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols, including compliance monitoring and peer review, Phase 1 archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation.

### **Bureau of Land Management, Santa Rosa National Monument Archaeological Survey, Riverside County, CA. *Archaeologist.***

Madeleine assisted in conducting pedestrian archaeological studies of the 394-acre project area and in the documentation of seven new archaeological sites. ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction.

### **Bureau of Land Management, Field Verification Studies, Blythe, CA. *Archaeologist.***

ESA is providing support services to the BLM for the processing of applications for solar development on BLM lands. Madeleine led several projects that provided field verification, on behalf of the Bureau of Land Management, of Class III archaeological surveys.

### **Pardee Homes, Canyon Hills Cultural Resources Assessment, Lake Elsinore, CA. *Archaeologist.***

ESA was retained by Pardee Homes to prepare a cultural resources assessment for Phases 7 & 8 of the Canyon Hills Specific plan. ESA conducted a Phase 1 and Phase II Archaeological Resources Investigation, identifying resources that might be impacted by the project. Madeleine conducted archival research and managed the Phase I archaeological

## **Relevant Experience (Continued)**

field survey and report. She assisted in conducting the Phase II archaeological evaluation.

**Europa Village EIR, Regulatory Permitting and Planning Support, Unincorporated Riverside County, CA. *Archaeologist.*** Madeleine conducted an archaeological field survey at the project site and assisted with the preparation of the technical report. In addition, Madeleine conducted a record search for previous archaeological work in proximity to the project site, including nearby Native American sacred lands and paleontological sensitivity. Lastly, she assisted with the preparation of the cultural resources section for the EIR. ESA prepared an EIR and provide planning support for the 40-acre Europa Village Project, including 3 wineries, a 65-unit spa hotel and vineyards, located in unincorporated Riverside County, east of the City of Temecula. Regulatory compliance permitting including USACE Section 404, RWQCB NPDES 401 certification permitting and CDFDG 1602 SAA.

**Bureau of Land Management, Abandoned Mine Land Archaeological Inventories, San Diego County, Kern County, San Bernardino County, and Riverside County, CA. *Cultural Resources Project Manager.*** ESA has been retained to provide cultural resources services to the BLM in connection with the Abandoned Mine Lands program. The BLM proposes to conduct remediation of physical safety hazards associated with Abandoned Mine Lands. Remediation would consist of backfilling or closing off mine shafts, adits, and prospects. ESA prepared archaeological inventory reports documenting the abandoned mines, in compliance with Section 106 of the NHPA. Madeleine performed archival and historic research, coordinated with the BLM, led a team of surveyors in the documentation of over 100 mining features, and authored reports summarizing the documentation and providing significance and treatment recommendations.

**The Cove Cultural Landscape Restoration, San Jacinto, Riverside County, CA. *Archaeological Monitor.*** Madeleine periodically served as an archaeological construction monitor for The Cove Cultural Landscape Restoration Project. Tasks included ensuring compliance with project mitigation measures and relevant regulations, documentation of the project including a daily monitoring log and photographs, and analysis of cultural materials found during the course of construction.

**City of Coachella, General Plan EIR, Coachella, CA. *Technical Analyst.*** ESA prepared an EIR for the City of Coachella General Plan, which will update allowable land uses and policies to guide the city thorough 30 years of growth. Madeleine prepared the cultural resources portion of the Existing Conditions Report for the City of Coachella General Plan EIR. She conducted research concerning the history of Coachella and the 195 known archaeological and historical sites within the 16 square miles that constitute the City of Coachella. The City of Coachella is a small but developing city, which includes extensive residential and commercial development, as well as agricultural and vacant land.

## **Relevant Experience (Continued)**

**Fresh & Easy Riverside Facility EIR, Riverside County, CA. *Technical Analyst.*** Madeleine reviewed technical documents, performed updated archival research, and wrote the cultural resources section for the Fresh & Easy Riverside Facility EIR. ESA is providing technical support for Phase I and is also preparing the EIR for Phase II of the Riverside facility. Environmental issues include traffic, air quality/ greenhouse gas emissions, water quality/hydrology, hazards/hazardous materials, noise, and utilities and service systems.

**City of Riverside, Water Quality Control Plant Expansion Plan EIR, Riverside, CA. *Technical Analyst.*** Madeleine conducted archaeological studies of the project site and prepared the cultural resources section of the EIR. The City of Riverside's Regional Water Quality Control Plant (RWQCP) has prepared a facilities plan that would increase the capacity of the plant by approximately 10 mgd. The upgrade would include three main components: the Plant 1 Primary Expansion, the Plant 1 Membrane Bioreactor Facilities, and the Acid Phase Digester. Key issues in the CEQA analysis include consistency with the recently updated City General Plan, construction impacts, local land uses including the municipal airport, growth inducement, and discharge water quality.

**Murrieta Historic Resources Evaluation. Unincorporated Riverside County, CA. *Technical Analyst.*** Madeleine performed archival historical research in order to establish the historical significance of a property in Murrieta, California. ESA prepared a historic resources evaluation for a structure on property owned by the Riverside County Facilities Management Department, in order to determine whether, 1) the property would meet the federal, state, or local significance criteria and therefore would be considered a historic resource for CEQA purposes, and 2), the proposed demolition of the property would have a significant adverse impact on the historic significance of the property.

**California Public Utilities Commission, Devers-Mirage Project, Palm Springs, CA. *Technical Analyst*** Madeleine reviewed cultural resources technical documents and assisted in drafting the cultural resources EIR section for the CPUC Devers-Mirage Project. ESA prepared an EIR under contract to the CPUC to evaluate the potential impacts from Southern California Edison's proposed Devers-Mirage 115 kV System Split project. This project includes approximately 12-miles of new and upgraded 115 kV transmission line segments, a new loop-in for a 220 kV transmission line to the Mirage Substation, and upgrades at several other substations in the area. A short segment of the transmission line would cross Bureau of Land Management land, requiring coordination with a NEPA analysis.

## Relevant Experience (Continued)

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### Public Outreach and Education

Guest lecturer at Daniel Webster Middle School regarding career opportunities in archaeology, Los Angeles, CA, 2006

Guest lecturer at Foshay Learning Center regarding the field of archaeology, Los Angeles, California, 2005

Co-president, Graduate Student Association of Archaeology at the Cotsen Institute of Archaeology, University of California, Los Angeles. Organized weekly lectures on archaeological topics for Cotsen Institute affiliates and the general public, 2005-2006, 2004

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**Eastern Municipal Water District, Gravity Sewer Project, Murrieta, CA. *Cultural Resources Project Manager.*** Madeleine conducted archaeological studies of the project site, including archival research and field survey, and prepared a cultural resources technical report and cultural resources section of the IS/MND. ESA prepared a MND for the installation of a sewer system in Murrieta, Riverside County.

**Bureau of Land Management, Fast and Furious 5 Project, Rice and Vidal, Riverside and San Bernardino Counties, CA. *Archaeologist.*** ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Madeleine assisted in the preparation of cultural resources technical studies for the Fast and Furious 5 project. ESA prepared a Phase 1 archaeological resources study, biological survey, and Environmental Assessment for a project area on BLM lands for which the BLM may grant a Special Use Film permit. Madeleine conducted archival research and assisted in the preparation of a Phase 1 Archaeological Resources Survey Report.

**Cadiz Land Company, Inc., Groundwater Project, San Bernardino County, CA. *Archaeologist.*** ESA was retained by Cadiz Land Company, Inc. to prepare an EIR in connection with a water supply project in Cadiz Valley of the Mojave Desert. Madeleine led a Phase 1 archaeological resources assessment including literature review, 42-mile long pedestrian survey, and Native American outreach to meet CEQA compliance requirements. An Archaeological Resources Technical Report was prepared that evaluated the California Register eligibility of over 40 historic-period archaeological sites that had been identified as a result of the investigation. The results of the technical report were incorporated into the EIR which included an impacts analysis and appropriate mitigation measures.

**Metropolitan Airpark LLC., Metropolitan Air Park Project, San Diego, CA. *Cultural Resources Project Manager.*** ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned Development Permit Project. Madeleine managed the preparation of cultural resources technical studies for the Metropolitan Airpark project, including archival research and field surveys, and is managing the preparation of a Phase 1 Archaeological Resources Survey Report that addresses the significance of known sites and provides an impacts analysis and mitigation measures.

**Department of Water Resources, East Branch Enlargement EIR, Antelope Valley, CA. *Cultural Resources Project Manager.*** Madeleine coordinated the preparation of cultural resources technical studies for the EBE project, which will involve the enlargement of 100 miles of the California Aqueduct from the

## **Relevant Experience (Continued)**

Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. Madeleine analyzed and summarized records search results, which resulted in identification of 130 cultural resources near the project area. She drafted a survey strategy for DWR approval, coordinated with DWR, and completed archaeological field survey of the 98-mile project area. She preparing the draft survey report and completed site records for the more than 100 cultural resources identified during survey. The Project is being carried out in compliance with CEQA and Section 106 of the NHPA. Impacts and mitigation measures will be addressed in the Cultural Resources section of the Project EIR. ESA has conducted technical studies to complete the EIR and has begun negotiating permit requirements and restoration planning with resource agencies including the USACE, RWQCB, and USFWS.

**Department of Water Resources, East Branch Extension Project, San Bernardino County, CA. *Archaeologist.*** Madeleine assisted in the technical editorial review of the Cultural Resources section for the East Branch Extension (EBXII) EIR. She reviewed archaeological technical reports; helped revise the cultural EIR section; researched and assisted in the preparation of a historic evaluation of Grand Central Rocket Company facilities, and completed extended Phase I cultural resources surveys. She also assisted in the preparation of a cultural resources evaluation report. ESA prepared an EIR assessing potential impacts of the East Branch Extension Phase II Project, which will install 6 miles of pipeline across the Santa Ana River near Redlands. The new pipeline will increase water delivery capacity to the San Gorgonio Pass Water Agency serving the cities of Banning and Beaumont. The project includes construction of the Citrus Reservoir, a 26-acre lined storage reservoir that will require excavation and hauling off site of 1.8 million cubic yards of material over a three year construction period. ESA has managed biological surveys of the project corridor and is assisting in agency consultation required for natural resource permitting with the USFWS, CDFG, RWQCB, and the USACE.

**Joshua Basin Water District, Recharge Basin and Pipeline Project, Joshua Tree, San Bernardino County, CA. *Cultural Resources Project Manager.*** ESA was retained by the Joshua Basin Water District to prepare and EIR for the JBWD Recharge Basin and Pipeline Project, located in Joshua Tree. The project would involve the construction of a recharge basin and six-mile pipeline. Madeleine conducted an archaeological field survey at the project site, wrote the technical report summarizing the survey findings, and prepared the cultural resources section for the EIR. Madeleine prepared and submitted Department of Parks and Recreation forms for the 10 cultural resources found during the survey. In addition, Madeleine conducted a record search for previous archaeological work in proximity to the project site, including nearby Native American sacred lands and paleontological sensitivity. Finally, she prepared an updated Section 106-compliant Phase I archaeological study that was submitted to the EPA as part of an application for EPA funding.

## Relevant Experience (Continued)

### Additional Experience

**Cotsen Institute of Archaeology, University of California, Los Angeles. *Publications Assistant.*** Madeleine assisted in editing manuscripts for publication, maintained databases and inventory of published material, and processed orders and assisted customers.

**Kenchreai Cemetery Project, Kenchreai, Greece. *Crew Member.*** Madeleine assisted the survey a Roman-era cemetery near Corinth, Greece. The site consisted of 55+ tombs which she helped survey, map, photograph, and create scale drawings. Additionally, she inventoried and documented ceramic artifacts.

**Macalester College Excavations, Omrit, Israel. *Crew Member and Registrar.*** Madeleine participated in two sessions of the excavation of a Roman temple in Northern Israel. She helped excavate three separate trenches, and collaborated with excavation leaders to map, organize, document, inventory, and create a database of artifacts and architectural fragments.

**Pioneer Memorial Cemetery Geophysical Survey, Sylmar, California. *Crew Member.*** Madeleine surveyed a 19<sup>th</sup> and 20<sup>th</sup> century A.D. historical site using magnetic & electromagnetic methods, resistivity, and Ground Penetrating Radar. She analyzed the results of the surveys and prepared a report on her findings.

**Science Museum of Minnesota, Saint Paul, Minnesota. *Archaeology Intern.*** As part of an independent project, Madeleine assisted the Science Museum of Minnesota in researching and cataloguing a small collection of Greek and Roman ceramic lamps that had never been identified by place or period of origin. Ultimately, Madeleine created a catalog of the lamps and prepared the data for entry into the museum's database for record and eventual publication.

**Sikyon Survey Project, Sikyon, Greece. *Crew Member.*** Madeleine participated in a collaborative, multi-national geophysical survey of a large Greek and Roman period urban site as part of a multidisciplinary study. She conducted a both geophysical and pedestrian archeological surveys of the site using a Geoscan FM36 Fluxgate gradiometer. Madeleine was also responsible for sorting, documenting, and cataloguing ceramic artifacts which she analyzed to help create a ceramic typology for the site.

**Statistical Research, Inc., Playa Vista, CA. *Field and Laboratory Technician.*** Madeleine assisted an ongoing field curation project at the proposed construction site of an office complex in Playa Vista. Madeleine documented trenches through scale drawings and photographs of the project site. She also assisted in cataloguing of sorted materials and artifacts for future curation.

**University of California, Los Angeles. *Teaching Assistant.*** Madeleine worked as a teaching assistant for three Classics courses. She taught two 50-student sections per course, graded papers, and administered exams.



# KATHERINE ANDERSON

Associate III

Kathy is a cultural resources analyst involved with a variety of ESA projects involving historic period structures, buildings, and districts. Her role entails establishing a base historical context for the respective projects, conducting archival review at regional and state repositories, documenting and evaluating historic resources for eligibility for the National and California Registers, and drafting technical reports meeting Federal, State, and Local requirements. Kathy has completed evaluations for pre and post World War II residential and commercial buildings, water conveyance systems, mining and industrial buildings and structures, airports, as well as historic period roads, trails, and railway features. Kathy has experience working in projects located throughout the Central Valley, as well as Sierra Nevada, Southern California, and western Nevada.

---

## Education

Masters of Arts in Public History, Sacramento State University 2000

B.A., History, Minor in Women's Studies and Anthropology/Geography, California Polytechnic State University, San Louis Obispo

## 5 Years Experience

Meets Secretary of the Interior's Professional Qualification Standards for Architectural Historian 1995

---

## Relevant Experience

**206008.03 DWR, East Branch Enlargement Project, Los Angeles and San Bernardino Counties, CA. Cultural Resource Analyst.** Kathy is assisting in the creation of a cultural resources survey report for the enlargement of the East Branch of the California Aqueduct. This includes assistance in the creation of the historic context, evaluation of the integrity and potential historic significance of the East Branch of the California aqueduct, and extensive field survey.

**209397 BLM Desert Sunlight Solar Project Support Services and EIS, Riverside County, CA. Comment Analyst.** Kathy managed the content analysis of public comments received for the public draft of the EIS. Content analysis efforts included coding public comments, organizing and distributing comments to appropriate section writers, and summarizing the response to comments within the Final EIS.

**D211229.00 Comstock Mining BLM Baseline Studies, Virginia City, NV. Architectural Historian.** ESA was tasked with providing baseline cultural resource and biological studies for the mining project proposed by Comstock Mining Inc. Kathy's responsibilities include assisting in the documentation of architectural resources within Storey and Lyon Counties within the project area. This included the establishment of a historic context for the area, field survey, archival review, and documentation and evaluation of over 60 mining related resources including buildings, walls, foundations, and other resources.

**D211647.00 Yuba County Water Agency Cultural Resources. Architectural Historian.** ESA was tasked with providing a historic context and architectural resources evaluation for the YCWA Bullard's Bar FERC project. Kathy's responsibilities include assisting in the documentation of architectural resources within the project area and creating a historic context for the area. This included the establishment of a historic context for the area, archival review, and documentation and evaluation of over 9 hydroelectric related resources including powerhouses, dams, and other resources.

**D210292.00 NEPA for Land and Water Conservation Fund (LWCF) Changes. Cultural Resource Analyst.** ESA was tasked to assist the City of San Francisco



## Relevant Experience (Continued)

Redevelopment Agency with the documentation of a land swap between State Parks and the City for land located near Candlestick Park. Kathy assisted in the preparing Section 106 compliant documentation supporting this land swap, based on previously completed architectural and archaeological reports.

**D208146.00 The Arboretum Wetland Permit EIR/EIS, Rancho Cordova, CA. Cultural Resource Analyst.** ESA is currently preparing an EIS for a proposed master planned community in the City of Rancho Cordova. The EIS will analyze the environmental impacts of the issuance of a Section 404 permit for the project by the U.S. Army Corps of Engineers, which serves as the lead agency. The project encompasses 1,349 acres and includes 5,000 new residential units. Kathy assisted in the cultural resource analysis, which included compiling the findings of several previously completed reports to identify potentially significant resources in the area.

**D207312.00 Sonoma County Compost Site Selection, Conceptual Design and CEQA. Cultural Resource Analyst.** Sonoma County recently selected ESA to help them select a site, prepare a conceptual design, and provide CEQA for a windrow compost facility. The County needs to move its existing facility and is just beginning the process of finding a new county-wide compost site. Kathy assisted in the completion of the cultural resources and aesthetics sections, which included archival review, field survey, and NAHC contact.

**D209299.00 Stanislaus Council of Governments (StanCOG) 2011 Regional Transportation Plan, Stanislaus County, CA. Cultural Resource Analyst.** Working with the StanCOG, ESA managed a multidisciplinary consulting team to complete the 2011 Regional Transportation Plan (RTP) and EIR within an accelerated schedule. The 2011 Regional Transportation Plan is unique in that it utilized the two foundational concepts of fiscal constraint and system planning as part of its development. Kathy assisted in the completion of the cultural resources section, including archival review and NAHC contact.

**207511.05 La Grange Road and Dry Creek Bridge Replacement – Merced County On-Call Environmental Services, Merced County, CA. Cultural Resource Analyst.** As part of ESA's on-call contract with Merced County Public Works to provide CEQA/NEPA compliance services, ESA is managing the County's proposed project to replace the La Grange Road Bridge. Kathy assisted in the documentation of cultural resources within the project area, including the creation of a Historic Resources Evaluation Report (HRER), a Historic Properties Survey Report (HPSR), and a Finding of Effect (FOE). The project evaluated a 1960s bridge as well as the Newman Wasteway, which is identified as part of the NRHP eligible Central Valley Project.

**Metropolitan Water Resources Management Plan Update EIR, Fresno, CA, Cultural Resources Specialist.** Kathy's responsibilities include archival review of the project area, field survey, evaluation of historic structures identified within the project area and recommendations for mitigation to minimize impacts to cultural resources. In coordination with city staff, ESA is assisting the City of Fresno in the preparation of an EIR for the City of Fresno Metropolitan Water

## Relevant Experience (Continued)

Resources Management Plan (Metro Plan) Update. The Metro Plan presents near-term and future projects to provide sufficient and reliable water supplies to meet demand through build out of the 2025 General Plan. Near-term projects proposed include: (1) expansion of the existing Northeast Surface Water Treatment facility (SWTF); (2) construction of a new Southeast SWTF with administrative offices and corporation yard; and (3) installation of a major water transmission main system.

**Amador County Airport Environmental On-Call Consulting Services, Amador County, CA. *Architectural Historian.*** Kathy assisted in the completion of a Cultural Resources Baseline Study of the Amador County Airport (Westover Field). This included archival review at the North Central Information Center; archival research at local repositories; field survey; evaluation of the 1949 Amador County Airport Administration Building and a 1949 airplane hangar; and recommendations for the treatment of additional historical period structures within the airport.

**Truckee River Legacy Trail Phase 3A and 3B. *Section Writer.*** Kathy assisted in the preparation of an IS/MND, NES, and Categorical Exclusion for a proposed pedestrian and bicycle trail for the Town of Truckee, Caltrans, and the USFS. This included a review of existing cultural resource documents completed for the project and analysis of the impacts of the proposed project on cultural resources within and adjacent to the proposed trail.

**Tahoe Rim Trail Association, Rim to Reno EA and BE/BA, Washoe County, NV. *Section Writer.*** Kathy assisted in the preparation of an EA and BE/BA for a proposed new trail system from Mt. Rose near Lake Tahoe to Reno. This included a review of existing cultural resource documents completed for the project and analysis of the impacts of the proposed project on cultural resources within and adjacent to the proposed trail.

**210436 Merced River Comprehensive Management Plan and EIS, National Park Service, Yosemite, CA. *Content Analysis Manager.*** Kathy managed the content analysis of public comments received for the initial scoping of the EIS. Content analysis efforts included creating the coding structure, coding public comments, writing public concern statements and summary reports, working with the associated PEPC database, resolving IT issues, and working directly with the client and the National Parks Service staff.

**209481 The Central Valley Regional Water Quality Control Board, Dairy Manure Digester and Manure Co-digester Program EIR, Central Valley, CA. *Section Writer.*** Kathy assisted in the writing of various sections for the statewide program EIR. This included aesthetics, cumulative impacts, alternatives, and other CEQA issues sections within the document.

**209259 Mather Specific Plan EIS, Sacramento County, CA. *Cultural Resources Analyst.*** Kathy is assisting in the cultural resources analysis for the proposed specific plan EIS. This includes conducting archival research at local repositories, including the North Central Information Center, as well as evaluation of structures dating 50 years or older within the project area.

## Relevant Experience (Continued)

**209081 DWR, North Bay Aqueduct Alternate Intake Project EIR, Sacramento, Yolo, Solano and Napa Counties, CA. *Cultural Resources Analyst.*** Kathy is assisting in the identification and evaluation of historical resources within the project area, including the completion of records searches and initial constraints analysis for the alternative alignment routes.

**208607 Yolo County Flood Control & Water Conservation District, Capay Dam Restoration Project, Capay, CA. *Section Writer.*** Kathy assisted in providing the cultural resources analysis of impacts relating to the construction of the Capay Dam Restoration, which included identification and evaluation of any potential historic structures within the project area (including Capay Dam itself), as well as any impacts to cultural resources resulting from the implementation of the project.

**209139 Westside Cherry Valley Golf Club Mitigation and Monitoring Compliance, Tuolumne, CA. *Section Writer.*** Kathy assisted in the cultural resources analysis of impacts relating to the establishment of a staging area for the Westside Cherry Valley Golf Club, as well as the documentation of HPTP site capping mitigation for the construction of the golf course. The staging area documentation included the evaluation and identification of historical structures within the project area, as well as any impacts to cultural resources resulting from the implementation of the project.

**207769 Woodbridge Irrigation District Stockton Water Transfer, Stockton, CA. *Section Writer.*** Kathy assisted in providing the cultural resources analysis of impacts relating to the construction of the Woodbridge Irrigation District project, which included identification and evaluation of any potential historic structures within the project area (including the Woodbridge Canal), as well as any impacts to cultural resources resulting from the implementation of the project.

**207470 Content Analysis Team (CAT) Payette National Forest: Disease Transmission of Bighorn Sheep Supplemental Draft EIS, Weiser, ID. *Project Manager.*** Kathy assisted in providing CAT work for Payette National Forest regarding the Disease Transmission of Bighorn Sheep Supplemental Draft EIS. This includes coding public comments, writing public concerns, working with the associated MS Access and Oracle databases, resolving IT issues, working directly with the client and the USFS, and acting as project manager.

**207607 Tuolumne County Law and Justice Center, Tuolumne County. *Deputy Project Manager.*** Kathy prepared the Cultural Resources Report and EIR section for the construction of the Tuolumne County Law and Justice Center, and acted as the facilitator for all cultural resources personnel involved in the project. This included the description of the historic context for the City of Sonora and Tuolumne County, analysis for any impacts to cultural resources that would result from construction and implementation of the project, including the construction of necessary pipelines to service the project, and coordination of efforts of ESA archaeologists and architectural historians in the creation of the document.

## Relevant Experience (Continued)

**207259 USDA, CAT Merced River Wild and Scenic Mgt Plan, Merced County. *CAT Team Member.*** Kathy assisted in providing Content Analysis Team (CAT) work for Yosemite National Park regarding the Merced River Wild and Scenic Comprehensive Management Plan. This included coding public comments, writing public concerns, working with the associated MS Access database, resolving IT issues, working directly with the client and the US Forest Service, and acting as unofficial deputy project manager.

**207511.01 Downtown Government Center – Merced County On-Call Environmental Services. *Section Writer.*** Kathy provided the cultural resources analysis of impacts relating to the construction of the Merced County Downtown Government Center EIR, which included identification and evaluation of potential historic structures within the project area, as well as any impacts to cultural resources resulting from the implementation of the project.  
**207511.01**

**Cloverdale Rancheria Fee to Trust EIS, Sonoma County, CA. *Section Writer.*** Kathy assisted in the cultural resources analysis of impacts relating to the Cloverdale Rancheria Fee to Trust EIS, which included identification and evaluation of potential historic structures within the project area, as well as any impacts to cultural resources resulting from the implementation of the project.  
**207737.01**

**208522.01 Broadway Retail Corridor Specific Plan and EIR, Oakland, CA. *Cultural Resource Analyst.*** Kathy assisted in the creation of a Historic Resources Inventory for the 150 buildings dating 50 years or older within the project area. This includes the establishment of the historical setting, re-evaluation of the 150 buildings based on existing local significance ratings, and extensive field survey. The Historic Resource Inventory is for use in both the Existing Conditions Report prepared for the project as well as the future EIR.

**General Plan Update and Baseline Report, Calaveras County, CA. *Cultural Resource Analyst.*** Kathy prepared the Background Report for the Cultural Resources section for the County's General Plan Update, including the creation of the historic context for Calaveras County as well as documentation of all local, state and nationally designated cultural resources. The Background Report will be utilized in the preparation of the updated General Plan and will also serve as the setting for the EIR.

## **APPENDIX B**

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### Native American Correspondence

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626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

July 10, 2012

Dave Singleton, Program Analyst  
Native American Heritage Commission  
915 Capitol Mall, Room 364  
Sacramento, CA 95814  
FAX- 916-657-5390

**Subject: SLF search for the Azusa Hydroelectric Project – project no. 120288**

Dear Mr. Singleton:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map).

Township/Range: Section 22 of Township 1 North/ Range 10 West

In an effort to provide an adequate appraisal of all potential impacts to cultural resources that may result from the proposed project, ESA is requesting that a records search be conducted for sacred lands or traditional cultural properties that may exist within the project area.

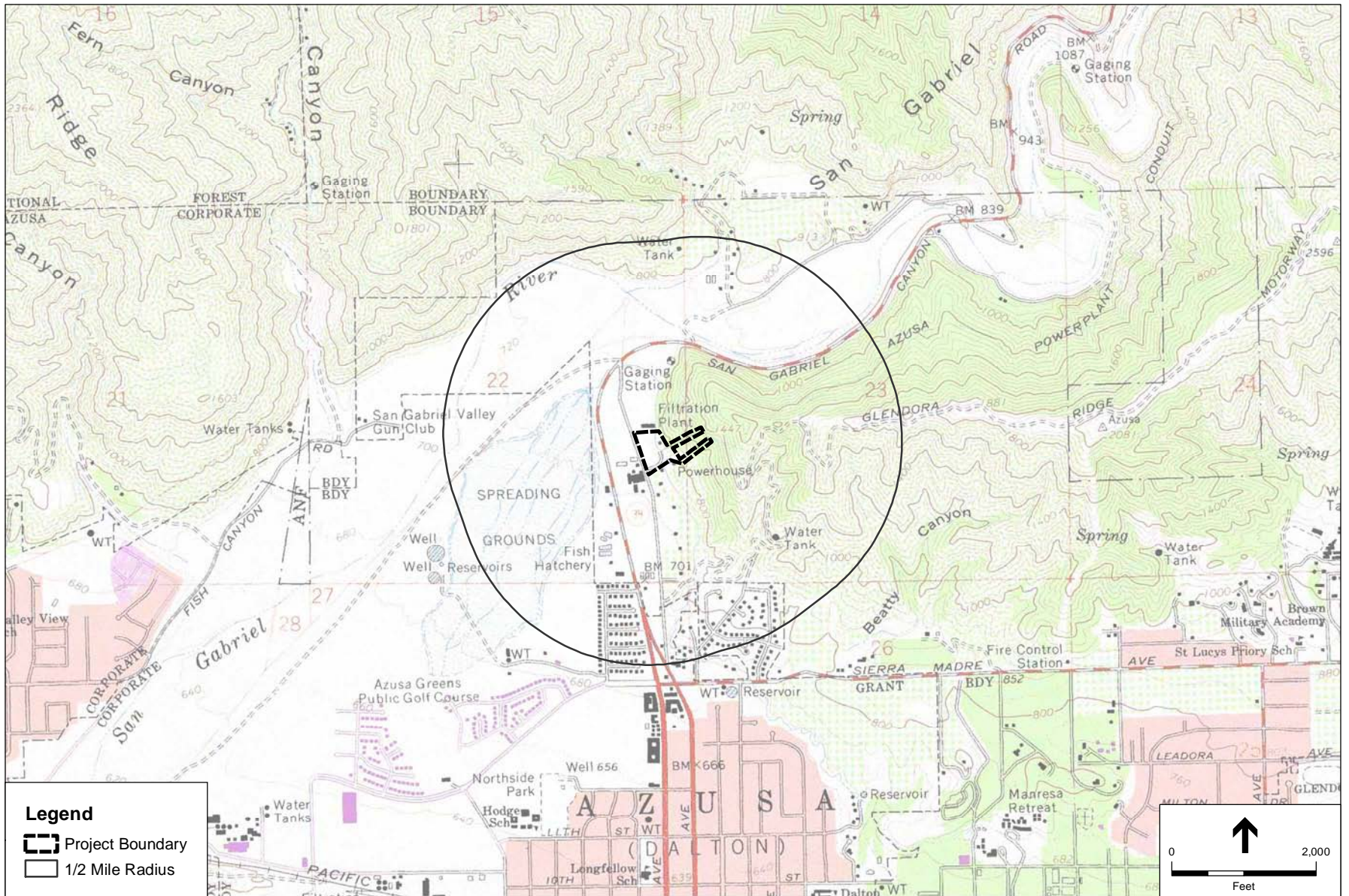
We additionally request the names and contact information for Native American representatives who are associated with the project area so that we may provide these individuals with information regarding the project.

Thank you for your time and cooperation regarding this matter. To expedite the delivery of search results, please fax them to 213.599.4301. Please contact me at 213.599.4300 or [cehringer@esassoc.com](mailto:cehringer@esassoc.com) if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Candace Ehringer'. The signature is written in a cursive, flowing style.

Candace Ehringer, RPA  
Cultural Resources



TOPOQUAD: Azusa

Azusa Hydroelectric Pipeline . 120288

**Figure 1**  
Cultural Record Search

STATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-6251  
Fax (916) 657-5390  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
ds\_nahc@pacbell.net



July 10, 2012

Ms. Candace Ehringer, RPA

**ESA CULTURAL RESOURCES**

626 WILSHIRE BOULEVARD, SUITE 1100  
Los Angeles, CA 90017

Sent by FAX to: 213-599-4301

No. of Pages: 5

Re: Sacred Lands File Search and Native American Contacts list for the proposed "Azusa Hydroelectric Project (120288)," located in the City of Azusa, Los Angeles County, California

Dear Ms. Ehringer

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File searches of the 'area of potential effect,' (APE) based on the USGS coordinates provided and Native American cultural resources were not identified within one-half mile of the project area of potential effect (e.g. APE): you specified. However, this area is known to the NAHC to be very culturally sensitive. Also, please note; the NAHC Sacred Lands inventory is not exhaustive and does not preclude the discovery of cultural resources during any project groundbreaking activity.

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

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

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



effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines “environmental justice” provisions and is applicable to the environmental review processes.

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

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

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 4(f), Section 110 and (k) of the federal NHPA (16 U.S.C. 470 *et seq.*), Section 4(f) of the Department of Transportation Act of 1966 (23 CFR 774); 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The NAHC remains concerned about the limitations and methods employed for NHPA Section 106 Consultation.

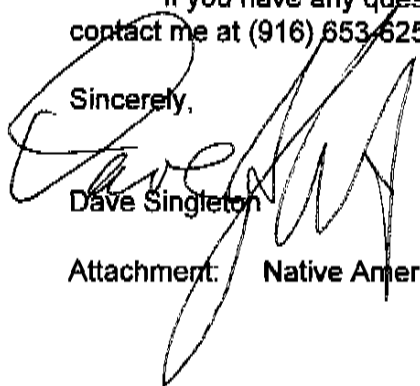
Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery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

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

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

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

Sincerely,



Dave Singleton

Attachment: Native American Contact List

**Native American Contact**

Los Angeles County

July 20, 2012

LA City/County Native American Indian Comm  
Ron Andrade, Director

3175 West 6th St, Rm. 403  
Los Angeles , CA 90020  
randrade@css.lacounty.gov

(213) 351-5324  
(213) 386-3995 FAX

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

Gabrielino Tongva

(909) 262-9351 - cell

Ti'At Society/Inter-Tribal Council of Pimu  
Cindi M. Alvitre, Chairwoman-Manisar

3094 Mace Avenue, Apt. B Gabrielino  
Costa Mesa, , CA 92626  
calvitre@yahoo.com

(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council  
Robert F. Dorame, Tribal Chair/Cultural Resources

P.O. Box 490 Gabrielino Tongva  
Bellflower , CA 90707  
**gtongva@verizon.net**

562-761-6417 - voice

562-761-6417- fax

Tongva Ancestral Territorial Tribal Nation  
John Tommy Rosas, Tribal Admin.

Private Address Gabrielino Tongva

**tattnlaw@gmail.com**

310-570-6567

Gabrielino-Tongva Tribe  
Bernie Acuna

1875 Century Pk East #1500 Gabrielino  
Los Angeles , CA 90067

(619) 294-6660-work

(310) 428-5690 - cell

(310) 587-0170 - FAX

bacuna1@gabrieinotribe.org

Gabrielino/Tongva San Gabriel Band of Mission  
Anthony Morales, Chairperson

PO Box 693 Gabrielino Tongva  
San Gabriel , CA 91778  
GTTribalcouncil@aol.com

(626) 286-1632

(626) 286-1758 - Home

(626) 286-1262 -FAX

Gabrielino-Tongva Tribe  
Linda Candelaria, Chairwoman

1875 Century Pk East #1500 Gabrielino  
Los Angeles , CA 90067

lcandelaria1@gabrielinoTribe.org

626-676-1184- cell

(310) 587-0170 - FAX

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

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

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Azusa Hydroelectric Project; located in the City of Azusa; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

**Native American Contact  
Los Angeles County  
July 20, 2012**

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

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

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

**This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Azusa Hydroelectric Project; located in the City of Azusa; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.**



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

July 30, 2012

LACity/County Native American Indian Comm.  
Ron Andrade, Director  
3175 West 6<sup>th</sup> St. Rm. 403  
Los Angeles, CA 90020

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Andrade:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

In an effort to address any potential impact to archaeological or Native American resources, we are seeking comments and information from Native American representatives, and your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any sensitive sites in or near the project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in this project.

Thank you for your cooperation on this matter. If you have any questions or comments, please contact me by phone at (213) 599-4300; by email at [cehringer@esassoc.com](mailto:cehringer@esassoc.com), or by mail at the address in the letterhead.

Sincerely,

A handwritten signature in black ink that reads "Candace Ehringer". The signature is written in a cursive, flowing style.

Candace Ehringer, RPA  
Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
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July 30, 2012

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

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Ms. Alvitre:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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Thank you for your cooperation on this matter. If you have any questions or comments, please contact me by phone at (213) 599-4300; by email at [cehringer@esassoc.com](mailto:cehringer@esassoc.com), or by mail at the address in the letterhead.

Sincerely,

A handwritten signature in black ink that reads 'Candace Ehringer'. The signature is written in a cursive, flowing style.

Candace Ehringer, RPA  
Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
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July 30, 2012

Gabrieleno/Tongva San Gabriel Band of Mission  
Anthony Morales, Chairperson  
PO Box 693  
San Gabriel, CA 91778

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Morales:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

In an effort to address any potential impact to archaeological or Native American resources, we are seeking comments and information from Native American representatives, and your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any sensitive sites in or near the project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in this project.

Thank you for your cooperation on this matter. If you have any questions or comments, please contact me by phone at (213) 599-4300; by email at [cehringer@esassoc.com](mailto:cehringer@esassoc.com), or by mail at the address in the letterhead.

Sincerely,

A handwritten signature in black ink that reads 'Candace Ehringer'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Candace Ehringer, RPA  
Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

July 30, 2012

Gabrielino Tongva Nation  
Sam Dunlap, Chairperson  
PO Box 86908  
Los Angeles, CA 90086

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Dunlap:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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Cultural Resources





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July 30, 2012

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

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Dorame:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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Candace Ehringer, RPA  
Cultural Resources



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Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

July 30, 2012

Gabrielino-Tongva Tribe  
Bernie Acuna  
1875 Century Pk East #1500  
Los Angeles, CA 90067

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Acuna:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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Candace Ehringer, RPA  
Cultural Resources



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Suite 1100  
Los Angeles, CA 90017  
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213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

July 30, 2012

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

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Ms. Candelaria:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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Cultural Resources



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Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

July 30, 2012

Gabrieleno Band of Mission Indians  
Andrew Salas, Chairperson  
PO Box 393  
Covina, CA 91723

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Salas:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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July 30, 2012

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

**SUBJECT: Cultural resource study for Azusa Hydroelectric Project**

Dear Mr. Rosas:

ESA is conducting environmental studies for the City of Pasadena Department of Water and Power Azusa Hydroelectric project, located in the City of Azusa, County of Los Angeles. The project will involve the structural retrofitting of two historic-era pipelines in order to enhance their resistance to damage due to and reduce the possibility of their failure during a seismic event. These pipelines are physically located adjacent to the plant and atop two ridges, fed by a forebay at the top of the hill from which these ridges run down. The construction work associated with this retrofitting is expected to occur within six feet to either side of each pipelines' respective outer edge. Work on the pipelines will most likely be performed using manual labor, hand tools, portable combustion engine generators, welding equipment and cutting equipment. The terrain makes the use of large or earthmoving equipment along the pipelines infeasible. The project is located on the Azusa USGS 7.5-minute quadrangle (see attached map). Township/Range: Section 22 of Township 1 North/ Range 10 West.

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Candace Ehringer, RPA  
Cultural Resources

## Madeleine Bray

---

**Subject:** FW: Cultural resource study for Azusa Hydroelectric project.

**Importance:** High

-----Original Message-----

From: andysalas [<mailto:gabrielenoindians@yahoo.com>]

Sent: Friday, September 14, 2012 9:56 PM

To: Candace Ehringer; Christina Swindall Martinez. Kizh Gabrieleno; Matt Teutimez.Kizh Gabrieleno; Nadine Salas. Kizh Gabrieleno

Subject: Cultural resource study for Azusa Hydroelectric project.

Dear Candace

We Are the descendants of the first indigenous Native people who inhabited the entire Los Angeles Basin, Orange county and the Channel islands.

This email is in response to your letter dated Aug 02, 2012 in regards to the above subject project. From our understanding this is an already developed site never the less your proposed project is within a highly culturally sensitive area. The Kizh Gabrieleno village of Azusangna now known as "Azusa" is in your project site area and in order to protect our resources we're requesting one of our experienced & certified Native American monitors to be on site during all ground disturbances.

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

Please contact our office regarding this project to coordinate a NA monitor to be present.  
Thank You

Sincerely,  
Andy Salas

Sent from my BlackBerry® by Boost Mobile

## **APPENDIX C**

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Confidential Department of Parks and Recreation  
(DPR) 523 Forms



## **APPENDIX D**

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### Confidential Figures

# **APPENDIX C**

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## **Response to Comments**

# RESPONSE TO COMMENTS

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## Azusa Hydroelectric Pipeline Seismic Retrofit Project IS/MND

The Initial Study/Mitigated Negative Declaration for the Azusa Hydroelectric Pipeline Seismic Retrofit Project was circulated for public review for 22 days (November 9, 2012 through November 30, 2012). The City of Pasadena received one (1) comment letter during the public review period. The comment letter has been bracketed and numbered and is presented in the table below. The responses are provided below and are labeled to correspond to the numbered bracketed comments that appear in the margins of the comment letter.

Where the responses indicate revisions, additions or deletions to the text of the Draft SEIR, the text is indented and additions are indicated in underline and deletions in ~~strikeout~~.

### COMMENT LETTERS RECEIVED

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Comment No.	Commenting Agency / Interested Party	Date of Comment
1	Native American Heritage Commission (NAHC)	November 20, 2012

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**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-6251  
Fax (916) 657-5390  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
ds\_nahc@pacbell.net



November 20, 2012

Mr. Jason Miller, P.E.

**City of Pasadena Water and Power Department**

85 East State Street  
Pasadena, CA 91105

Re: SCH#2012111032; CEQA Notice of Completion; Mitigated Negative Declaration for the "Azusa Hydroelectric Pipeline Seismic Retrofit Project ;" located in the City of Azusa; Los Angeles County, California

Dear Mr. Miler:

The NAHC is the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3<sup>rd</sup> 604).

This letter includes state and federal statutes relating to Native American historic properties or resources of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendment s effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance.' In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC advises the Lead Agency to request a Sacred Lands File search of the NAHC if one has not been done for the 'area of potential effect' or APE previously.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural



NAHC-1

significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties, including archaeological studies. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and California Public Resources Code Section 21083.2 (Archaeological Resources) that requires documentation, data recovery of cultural resources, construction to avoid sites and the possible use of covenant easements to protect sites.

NAHC-1  
(cont'd)

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

NAHC-2

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254( r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

NAHC-3

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

NAHC-4

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

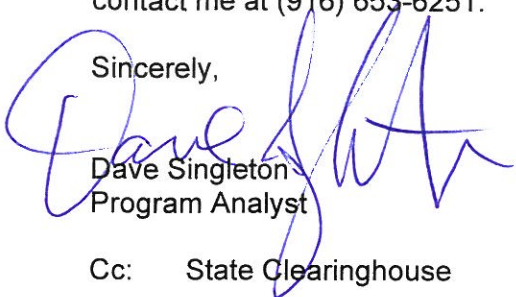
NAHC-5

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

NAHC-6

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

Sincerely,



Dave Singleton  
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

**Native American Contacts  
Los Angeles County  
November 20, 2012**

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

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

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

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

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

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

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

Gabrielino-Tongva Tribe  
Linda Candelaria, Chairwoman  
1875 Century Pk East #1500  
Los Angeles , CA 90067  
palmsprings9@yahoo.com  
626-676-1184- cell  
(310) 587-0170 - FAX

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

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

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SSCH#2012111032; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Azusa Hydroelectric Pipeline Seismic Retrofit Project; located in the City of Azusa; Los Angeles County, California.

**Native American Contacts  
Los Angeles County  
November 20, 2012**

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

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## 12.1 Responses to Comments

### Letter 1, Native American Heritage Commission (NAHC)

#### Response to NAHC-1

The commenter requests that a Sacred Lands File (SLF) search be completed for the project and states that early consultation with Native American tribes is the best way to avoid unanticipated discoveries during construction. As stated on page 16 of the Draft ISMND, the NAHC was contacted and a SLF search for the project was performed. Native American contacts, as recommended by the NAHC in its July 10, 2012 letter, were contacted to provide input on the project. This list of contacts is identical to the suggested list of contacts enclosed with the commenter's letter. The commenter is referred to page 16-17 of the Draft ISMND, Cultural Resources section, which summarize the results of the NAHC SLF search and the Native American contact program.

The commenter also recommends avoidance, in reference to the treatment of cultural resources. All identified cultural resources within the Project area would be avoided during project construction, and Mitigation Measures 5.1, 5.2, and 5.3 would ensure avoidance of cultural resources.

#### Response to NAHC-2

The commenter states that projects under the jurisdiction of the statutes of the National Environmental Policy Act (NEPA), should conduct consultation with Indian Tribes per the requirements of NEPA and Section 106. The proposed project is not subject to NEPA or Section 106 of the NHPA.

#### Response to NAHC-3

The commenter states that confidentiality of historic properties of religious and cultural significance should be considered protected by California Government Code Section 6254(r). The Draft ISMND is in compliance with California Government Code Section 6254(r), and does not include information regarding the specific location of cultural resources.

#### Response to NAHC-4

The commenter states that Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5 provide provisions for inadvertent discoveries and process to be followed. Mitigation Measure 5.5 requires that the project comply with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5 in the event of inadvertent discovery of human remains.

#### Response to NAHC-5

This comment provides recommendations for effective tribal consultation. This comment is noted.

## **Response to NAHC-6**

The commenter states that avoidance is the recommended policy with Native American cultural sites or burial sites. Please see the response to comment NAHC-1

# **APPENDIX D**

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## **Mitigation Monitoring and Reporting Program**

# MITIGATION MONITORING AND REPORTING PROGRAM

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Pasadena Water & Power

Azusa Hydroelectric Pipeline Seismic Retrofit Project

## Introduction

In accordance with Section 15091(d) and Section 15097 of the *CEQA Guidelines*, which require a public agency to adopt a program for reporting on or monitoring required changes or conditions of approval to substantially lessen significant environmental effects, the Mitigation Monitoring and Reporting Program is hereby adopted for this project.

This Mitigation Monitoring and Reporting Program (MMRP) summarizes the mitigation commitments identified in the Hydroelectric Pipeline Seismic Retrofit Project Final Initial Study / Mitigated Negative Declaration (IS/MND) located in the City of Azusa. Mitigation measures are presented in the same order as they occur in the IS/MND. The columns in the MMRP table provide the following information:

- **Mitigation Measure(s):** The action(s) that will be taken to reduce the impact to a less-than-significant level.
- **Responsible Implementation Party/ Monitor and Reporter:** The agency or private entity responsible for ensuring implementation of the mitigation measure.
- **Time Frame/Monitoring Milestone:** The general schedule for implementation of the mitigation measure and conducting each monitoring task, either prior to construction, during construction and/or after construction
- **Party Responsible to Review Reports:** The agency or private entity responsible for reviewing the monitoring reports.

**MITIGATION MONITORING AND REPORTING PROGRAM  
AZUSA HYDROELECTRIC PIPELINE SEISMIC RETROFIT PROJECT**

Impact	Mitigation Measure	Responsible Implementation Party/ Monitor and Reporter	Time Frame/ Monitoring Milestone:	Party Responsible to Review Reports
<b>Aesthetics</b>				
None Required.				
<b>Agricultural and Forest Resources</b>				
None Required.				
<b>Air Quality</b>				
None Required.				
<b>Biological Resources</b>				
The proposed project may have a substantial adverse effect, either directly or through habitat modifications on the California Gnatcatcher.	<b>Mitigation Measure 4.1:</b> To minimize any potential harm to coastal California gnatcatcher, in the unlikely event it is found to be present, any vegetation removal shall be done outside the nesting season (February 15 to August 31). If vegetation removal or ground-disturbing activities occur within the nesting season, a nesting bird survey shall be conducted prior to construction activities to identify any potential nests on or within 300 feet of the project boundaries. Prior to commencement of construction activities, a qualified biologist shall perform a preconstruction survey to determine whether nests are present in or around the proposed project area. If a nest is found, an appropriate buffer shall be established by the qualified biologist. No construction or other activities shall be allowed to occur within the buffer until the young have fledged or the nest becomes inactive.	Qualified biologist	Prior to construction, during construction activities	City of Pasadena Planning Division
The proposed project may potentially impact jurisdictional features, including a man-made swale, an ephemeral drainage and two man-made storage pools within or directly adjacent to the project site.	<b>Mitigation Measure 4.2:</b> Water features on the site shall be clearly identified and access shall be prohibited as signified by exclusionary fencing by construction workers and any unauthorized personnel for the duration of construction	Qualified biologist	Prior to construction	City of Pasadena Planning Division
<b>Cultural Resources</b>				
The proposed project may cause a substantial adverse change in the significance of a historical resource recorded within a ½ mile of the project area.	<b>Mitigation Measure 5.1:</b> Prior to the initiation of project activities onsite, a qualified archaeologist meeting the Secretary of the Interior's qualifications standards for archaeology shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed as to areas to be avoided (Covina Canal, 1898 riveted steel penstock pipe related to the Azusa Conduit, and ESA-AZS-4). Construction personnel shall also be informed of the proper procedures to be enacted in the event of an inadvertent archaeological discovery (See Mitigation Measure 5.3). Construction personnel shall complete a sign-in sheet to verify their	Qualified Archaeologist; construction personnel	Prior to construction	City of Pasadena Planning Division

participation in the cultural resources sensitivity training; this sheet shall be submitted to the Zoning Administrator as proof that the training has been completed.

	<p><b>Mitigation Measure 5.2:</b> Prior to the initiation of construction or ground disturbing activities, a temporary impenetrable, highly visible protective covering shall be placed and secured around the 1898 riveted steel Azusa Conduit pipeline where it is located adjacent to the construction work areas, for the purpose of preventing inadvertent impacts to the resource during the construction period. The protective covering shall have a low profile so as to not impede with construction activities or create an obstruction to onsite workers. Similarly, temporary fencing shall be installed at any access points to the area of the Covina Canal and ESA-AZS-4 for the purpose of preventing inadvertent access or impacts to these resources during the construction period. The impenetrable covering and temporary fencing shall be removed following the completion of construction.</p>	Qualified Archaeologist	Prior to construction or ground disturbing activities	City of Pasadena Planning Division
The proposed project may cause a substantial adverse change in the significance of a unique archaeological resource	<p><b>Mitigation Measure 5.3:</b> Any accidental discovery of cultural resources during construction shall be evaluated by a qualified archaeologist, defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology. If the find is determined to be potentially significant, the archaeologist, in consultation with the lead agency and appropriate Native American group(s) shall develop a treatment plan. All work in the immediate vicinity of the unanticipated discovery shall cease until the qualified archaeologist has evaluated the discovery, or until the treatment plan has been implemented, if appropriate.</p>	Qualified archaeologist	During construction	City of Pasadena Planning Division
The proposed project may directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	<p><b>Mitigation Measure 5.4:</b> Any accidental discovery of paleontological resources during construction shall be evaluated by a qualified paleontologist. If the find is determined to be potentially significant, the paleontologist, in consultation with the City shall develop a treatment plan. All work in the immediate vicinity of the unanticipated discovery shall cease until the qualified paleontologist has evaluated the discovery, or until the treatment plan has been implemented, if appropriate.</p>	Qualified Paleontologist	During construction	City of Pasadena Planning Division
The proposed project may disturb any human remains, including those interred outside of formal cemeteries	<p><b>Mitigation Measure 5.5:</b> In the event that previously unknown human remains are uncovered during project excavation, those remains shall be treated in accordance with State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, as required by California state law. State Health and Safety Code Section 7050.5 requires that no further disturbance shall 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. The Native American Heritage Commission shall then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased individual(s), who will then help determine the future disposition of the remains. Per Public Resources Code 5097.98, the landowner shall</p>	Qualified Archeologist	During construction	City of Pasadena Planning Division

ensure that the immediate vicinity (defined according to generally accepted cultural or archaeological standards or practices) around where the human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD(s) regarding their recommendations, taking into account the possibility of multiple human remains.

**Geology, Soils, and Mineral Resources**

None Required.

**Greenhouse Gas Emission**

None Required.

**Hazards and Hazardous Materials**

None Required.

**Hydrology and Water Quality**

None Required.

**Land Use and Planning**

None Required.

**Mineral Resources**

None Required.

**Noise**

None Required.

**Population and Housing**

None Required.

**Public Services**

None Required.

**Recreation**

None Required.

**Transportation and Traffic**

None Required.

**Utilities and Energy**

None Required.