# RECIRCULATED PORTIONS OF
# FINAL ENVIRONMENTAL IMPACT REPORT
# AND MITIGATION MONITORING AND REPORTING PROGRAM

# DEVIL'S GATE RESERVOIR SEDIMENT REMOVAL
# AND MANAGEMENT PROJECT
# PASADENA, CA
# (LOS ANGELES COUNTY)

**State Clearinghouse No. 2011091084**

*Prepared for:*

**LOS ANGELES COUNTY**
**FLOOD CONTROL DISTRICT**
P.O. Box 1460
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# INTRODUCTION

## Executive Summary

The Los Angeles County Flood Control District (LACFCD), as lead agency under the California Environmental Quality Act (CEQA), is recirculating limited portions of the Devil's Gate Sediment Removal and Management Project Final EIR (State Clearinghouse No. 2011091084) as the result of a judgment from the Superior Court of the County of Los Angeles. The judgment found that the Final EIR complied with CEQA on all but three narrow grounds. Accordingly, and as explained in more detail below, the LACFCD is recirculating only those sections of the Final EIR for the Project, for Alternative 3, Configuration D (Approved Project), and for Alternative 5 (Haul Route Alternative) related to: 1) the 1:1 mitigation ratios in Mitigation Measures BIO-6, -7, and -8; 2) the imposition of Mitigation Measures BIO-1 through 8 on the proposed Devil's Gate Water Conservation Project, should such a project go forward, to reduce potential cumulative impacts for this Project; and 3) the requirement, in Mitigation Measure AQ-1, that sediment removal dump trucks meet Environmental Protection Agency's emission standards for Model Year 2010 or later. The project approval by the LACFCD remains unchanged.

## Project Background

### Devil's Gate Reservoir and Dam - History and Purpose

The Devil's Gate Dam and Reservoir were built in 1920 to provide vital flood protection to Pasadena, South Pasadena, and Los Angeles, as well as the 110 Freeway, and numerous facilities along the Arroyo Seco, including the Rose Bowl and Brookside Park. The purpose of the Dam is to retain stormwater runoff, sediment and debris during storms to prevent high water flow from overwhelming the flood control channel, and then to release the stormwater in a safe, controlled manner to the Arroyo Seco Channel. During major storms exceeding the capacity of the Reservoir, the Dam is designed so the Reservoir water level rises until flow discharges through the spillway ports and then over the spillway.

### Reduction in Devil's Gate Dam Capacity

Each reservoir has its own unique design debris event ("DDE"); the DDE for Devil's Gate Dam is approximately 2 million cubic yards ("mcy"). The LACFCD's sediment removal criterion for dams was established to maintain reservoir capacity of two DDEs below a dam's spillway elevation. This ensures that there is always sufficient reservoir capacity to maintain an adequate level of downstream flood protection. With two DDEs, the LACFCD has determined there is likely to be sufficient reservoir capacity to successfully handle a design level storm, or several smaller but significant debris events, and still maintain capacity of at least one DDE during the lengthy environmental and construction processes to remove the debris, further protecting public safety. Accordingly, to ensure adequate flood protection the required reservoir capacity for Devil's Gate Dam is 4.0 mcy, or two DDEs, below the Dam's spillway elevation of 1,040.50 feet.

The 2009 Station Fire was the largest fire in the recorded history of the Angeles National Forest (since 1892) and the 12th largest fire in California since 1933. The Station Fire burned over 160,000 acres, leaving vast areas of the San Gabriel Mountains denuded of vegetation and thus susceptible to sediment flows. Indeed, approximately 68 percent of the watershed, including nearly all of the undeveloped watershed area, that drains to the Reservoir was burned, creating perfect conditions for subsequent storms to deposit massive amounts of sediment into the Reservoir. Storms in the year following the

Station Fire did just that, pouring approximately 1.3 mcy of sediment into the Reservoir. This sediment alone reduced the capacity at the Dam to less than one DDE, significantly increasing the risk of serious flooding from subsequent storms. Indeed, due to the Dam's reduced capacity, a single 50-year storm event would result in a large volume of storm water and sediment overflowing the Dam's spillway. As a result, in October 2010, the State Division of Safety of Dams recommended removal of sediment behind the Dam, and restoring Reservoir capacity to minimize flood risk downstream.

Preparation of Devil's Gate Sediment Removal and Management Project EIR

On September 28, 2011, the LACFCD issued a Notice of Preparation/Initial Study of an EIR for a proposed Project to remove "up to 4 million cubic yards of sediment from the reservoir behind Devil's Gate Dam to restore it to its current design standard, (capacity for two DDEs below the spillway elevation of 1040.5 ft.) and establish a reservoir configuration more suitable for routine maintenance activities including sediment management." On October 5, and 15, 2011 the LACFCD held public meetings to receive comments on the scope of the project.

The Draft EIR was released for public comment and review on October 23, 2013 and was subject to an extended 90-day public comment period. On November 6, 14, and 16, 2013 the LACFCD held public hearings to receive comments on the Draft EIR. During this public comment period, LACFCD received 251 comment letters from residents, local community groups, and local, State and Federal agencies.

The Final EIR, consisting of the Draft EIR and Technical Appendices, responses to all 251 comment letters submitted on the Draft EIR, and clarifications and modifications to the Draft EIR, was released on October 20, 2014.

Certification of EIR and Approval of Devil's Gate Sediment Removal and Management Project

On November 12, 2014, the Los Angeles County Board of Supervisors, acting as the Governing Board of the LACFCD, certified the Final EIR and approved the Environmentally Superior Alternative (Alternative 3, Configuration D, Option 2) in conjunction with Alternative 5, the Haul Route Alternative, which further reduced traffic impacts. Under Alternative 3, Configuration D, the sediment removal activities, including removal method, sediment disposal, truck routes, and project schedule, would be the same as the Project, but excavation activities would remove approximately 2.4, rather than 2.9, mcy of current excess sediment in the Reservoir, in addition to any additional sediment received during the implementation of the Project.

Litigation

On December 11, 2014, the Arroyo Seco Foundation and the Pasadena Audubon Society ("Petitioners") filed a Petition for Writ of Mandate challenging the adequacy of the Final EIR. While Petitioners raised many claims, at the conclusion of the litigation, on April 17, 2017, Judge James C. Chalfant of the Superior Court of the County of Los Angeles found that the Final EIR complied with CEQA on all but three narrow grounds. Accordingly, the Court denied Petitioners' request that the Project approvals be set aside and instead ordered the County and the LACFCD to only set aside and recirculate limited portions of the Final EIR.

Specifically, the Court ordered that the County and LACFCD recirculate portions of the Final EIR to:

- Provide substantial evidence to support the 1:1 mitigation ratios in Mitigation Measures BIO-6, -7, and -8, and therefore the Final EIR's conclusion that the Project's biological resource impacts will be reduced to less than significant levels; and

- Confirm that Mitigation Measures BIO-1 through BIO-8 will be applied as mitigation to the Devil's Gate Water Conservation Project, should such a project go forward, that will reduce potential cumulative impacts for this Project; and

- Modify Mitigation Measure AQ-1 to read as follows: "LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use only sediment removal dump trucks that meet EPA's emission standards for Model Year 2010 or later."

These revisions have been made to the Recirculated Portions of the Final EIR. As the Court found all other aspects of the original Final EIR to be in compliance with CEQA, the Recirculated Portions of the Final EIR include only those pages of the original Final EIR which require revision in order to comply with the Court's order. In addition, revisions have also been made to pages associated with Alternatives 3 and 5 to address options from those alternatives that were included in the approved project. The revised pages included in this Recirculated Portions of the FEIR are listed below:

- Pages ES12-16 (Executive Summary)
- Pages 83-85 (Section 3.5.6 AIR QUALITY – Impacts and Mitigation)
- Page 88 (Section 3.5.6 AIR QUALITY – Impacts and Mitigation)
- Page 90 (Section 3.5.6 AIR QUALITY – Impacts and Mitigation)
- Pages 130-134 (Section 3.6.6 BIOLOGICAL RESOURCES – Impacts and Mitigation)
- Page 431 (Section 4.6.3 ALTERNATIVE 3, CONFIGURATION D – Impacts Analysis and Comparison to Proposed Project)
- Pages 445-452 (Section 4.6.3 ALTERNATIVE 3, CONFIGURATION D – Impacts Analysis and Comparison to Proposed Project)
- Page 553 (Section 4.8.3 ALTERNATIVE 5, CONFIGURATION A, HAUL ROUTE ALTERNATIVE – Impact Analysis and Comparison to Proposed Project)
- Pages 561-564 (Section 4.8.3 ALTERNATIVE 5, CONFIGURATION A, HAUL ROUTE ALTERNATIVE – Impact Analysis and Comparison to Proposed Project)
- Pages 653-656 (Section 6.0 REFERENCES)
- Page 673 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS – Executive Summary)
- Page 676 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS – Executive Summary)
- Pages 690-694 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS)
- Page 706 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS)
- Page 707 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS)
- Page 743 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS)
- Pages 748-750 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS)
- Page 764 (Section 8.0 CLARIFICATIONS AND MODIFICATIONS)
- Page 767 (Section 8.0 CLARIFCATIONS AND MODIFICATIONS)
- Pages 2054-2059 (Section 10.0 MITIGATION MONITORING AND REPORTING PROGRAM)
- Appendix L – Devils Gate CEQA Mitigation Site Comparison

In the sections of the Final EIR that follow, additions to the text are shown as underlined and deletions to the text are shown as ~~strikethrough~~. Text within the Recirculated Portions of the EIR that appears without strikethrough or underline indicates that it is the same as in the Final EIR.

The Recirculated Portions of the Final EIR will be circulated for agency and public review and comment for 45 days (July 24, 2017 through September 7, 2017).

Hardcopies of the Recirculated Portions of the Final EIR are available for public review during regular business hours at the locations listed below:

- Linda Vista Library, 1281 Bryant Street, Pasadena, CA
- Pasadena Central Library, 285 East Walnut Street, Pasadena, CA
- San Rafael Branch Library, 1240 Nithsdale Road, Pasadena, CA
- Altadena Library District, 600 East Mariposa Street, Altadena, CA
- Bob Lucas Memorial Library, 2659 Lincoln Avenue, Altadena, CA
- La Cañada Flintridge Library, 4545 North Oakwood Avenue, La Cañada Flintridge, CA
- Irwindale Public Library, 5050 Irwindale Avenue, Irwindale, CA
- Sun Valley Library, 7935 Vineland Avenue, Sun Valley, CA
- County of Los Angeles Department of Public Works, 900 South Fremont Avenue, Alhambra, CA - Available at the Water Resources Division's 2nd Floor Public Counter

The Recirculated Portions of the Final EIR can also be viewed online at http://www.LASedimentManagement.com/DevilsGate

Written comments must be postmarked by September 7, 2017 and should be addressed to:

County of Los Angeles
Department of Public Works
Water Resources Division
Attn: Reservoir Cleanouts Program
P.O. Box 1460
Alhambra, CA 91802-1460

Pursuant to CEQA Guideline section 15088.5(f)(2), during the July 24, 2017 through September 7, 2017 public comment period, the LACFCD will respond only to comments to the information and analysis contained in the Recirculated Portions of the Final EIR.

The 90-day public review and comment period on the original Draft EIR closed on January 21, 2013 and written responses to all comments pertaining to those portions of the EIR that were not recirculated are contained in the Final EIR released on October 20, 2014.

Upon completion of the 45-day public review period, written responses to all comments to the Recirculated Portions of the Final EIR will be prepared and considered by the Los Angeles County Board of Supervisors for hearing and public comment.

# Executive Summary

# Pages ES12 – ES16

**Table ES-0-1: Summary of Potential Significant Impacts and Mitigation Measures**

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| **Aesthetics** | | |
| Aesthetics-1: Potentially significant impact to scenic vistas will occur from sediment removal activities during the sediment removal phase. | No feasible mitigation available. The less than significant impacts during reservoir management will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8. | Impact remains significant and unavoidable. |
| Aesthetics-3: Potentially significant impact to visual characteristics will occur from sediment removal activities during the sediment removal phase. | No feasible mitigation available. The less than significant impacts during reservoir management will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8 | Impact remains significant and unavoidable. |
| **Air Quality** | | |
| Air Quality-1: Conflict with the implementation of SCAQMD air quality management plan due to sediment removal emissions of $NO_X$ exceeding the Daily Regional Threshold will result in a significant impact. | **MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use only sediment removal dump trucks that meet the EPA's emission standards for Model Year 2010 ~~2007~~ or later.<br>**MM AQ-2**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment. | Less than Significant |
| Air Quality-2 and Air Quality-3: Sediment removal emissions of $NO_X$ will exceed the SCAQMD Daily Regional Threshold, resulting in a significant impact to an air quality standard. | See MM AQ-1 and MM AQ-2. | Less than Significant |
| Air Quality 6: Sediment removal emissions of $NO_X$ will exceed the SCAQMD Daily Regional Threshold, resulting in a cumulatively significant impact. | See MM AQ-1 and MM AQ-2. | Less than Significant |
| **Biological Resources** | | |
| Biology-1: Removal of habitat during sediment removal will result in a potentially significant impact to five special status wildlife species (least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter | **MM BIO – 1**: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide measures and monitor for wildlife in harm's way. This includes initial ground- or vegetation-disturbing project-related activities at the annual start of each year of sediment removal or maintenance activities. Following initial project-related activities, a qualified monitoring biologist shall be present as necessary to | Less than significant |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| snake) and nesting native birds and roosting bats. | maintain the implemented protection measures and monitor for additional species in harm's way. These protection measures shall include, as appropriate: redirecting wildlife, identifying areas that may require exclusionary devices (e.g., fencing), or capturing and relocating wildlife outside the work area. Any captured species shall be relocated to adjacent appropriate habitat that is contiguous to adjacent habitat and not impacted by project-related disturbance activities.<br>**MM BIO – 2:** Within 90 days prior to ground-disturbing activities, a sensitive species educational briefing shall be conducted by a qualified biologist for construction personnel. The biologist will identify all sensitive resources that may be encountered onsite, and construction personnel will be instructed to avoid and report any sightings of sensitive species to LACFCD or the monitoring biologist. Educational briefings shall be repeated annually for the duration of the sediment removal.<br>**MM BIO – 3**: Within 90 days prior to ground-disturbing activities, a preconstruction survey shall be conducted by a qualified biologist for the presence of any sensitive species in harm's way, including coast range newt, the southwestern pond turtle, and the two-striped garter snake. If sensitive species are observed in harm's way, the qualified biologist will develop and implement appropriate protection measures for that species. These protection measures shall include, as appropriate: redirecting the species, constructing exclusionary devices (e.g., fencing), or capturing and relocating wildlife outside the work area. Preconstruction surveys shall be repeated annually for the duration of the sediment removal. Observations of special status species made during these surveys shall be recorded onto a CNDDB field data sheet and submitted to CDFW for inclusion into the CNDDB.<br>**MM BIO – 4**: LACFCD, in consultation with a qualified biologist, will employ bird exclusionary measures (e.g., mylar flagging) prior to the start of bird breeding season to prevent birds nesting within established boundaries of the project.<br>Prior to commencement of sediment removal activities within bird breeding season (March 1-August 31), a preconstruction bird nesting survey shall be conducted by a qualified biologist for the presence of any nesting bird within 300 feet of the construction work area. The surveys shall be conducted 30 days prior to the disturbance of suitable nesting habitat by a qualified biologist with experience in conducting nesting bird surveys. The surveys shall continue on a weekly basis with the last survey being conducted no more than 3 days prior to | |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| | the initiation of clearance/construction work. Preconstruction surveys shall be repeated annually for the duration of the sediment removal.<br>If an active nest is found, the qualified biologist will develop and implement appropriate protection measures for that nest. These protection measures shall include, as appropriate, construction of exclusionary devices (e.g., netting) or avoidance buffers. The biologist shall have the discretion to adjust the buffer area as appropriate based on the proposed construction activity, the bird species involved, and the status of the nest and nesting activity; but shall be no less than 30 feet. Work in the buffer area can resume once the nest is determined to be inactive by the monitoring biologist.<br>**MM BIO – 5**: Within 30 days prior to commencement of vegetation or structure removal activities, a preconstruction bat survey shall be conducted by a qualified biologist for the presence of any roosting bats. Acoustic recognition technology shall be used if feasible and appropriate. If either a bat maternity roost or hibernacula (structures used by bats for hibernation) are present, a qualified biologist will develop and implement appropriate protection measures for that maternity roost or hibernacula. These protection measures shall include, as appropriate: safely evicting non-breeding bat hibernacula, establishment of avoidance buffers, or replacement of roosts at a suitable location. These measures shall also include as appropriate:<br>▪ To the extent feasible, trees that have been identified as roosting sites shall be removed or relocated between October 1 and February 28.<br>▪ When trees must be removed during the maternity roost season (March 1 to September 30), a qualified bat specialist shall conduct a preconstruction survey to identify those trees proposed for disturbance that could provide hibernacula or nursery colony roosting habitat for bats.<br>▪ Trees identified as potentially supporting an active nursery roost shall be inspected by a qualified biologist no greater than 7 days prior to tree disturbance to determine presence or absence of roosting bats.<br>▪ Trees determined to support active maternity roosts will be left in place until the end of the maternity season (September 30).<br>If bats are not detected in a tree, but the qualified biologist determined that roosting bats may still be present, trees shall be removed as follows:<br>o Pushing the tree down with heavy machinery instead of | |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| | felling the tree with a chainsaw<br>o First pushing the tree lightly 2 to 3 times with a pause of 30 seconds in between each nudge to allow bats to become active, then pushing the tree to the ground slowly<br>o Allowing the tree to remain in place for 24 to 48 hours until inspected by the qualified biologist for presence or absence of roosting bats<br>The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD. | |
| Biology-2: A significant impact will occur to riparian habitats and sensitive habitats. | **MM BIO – 6:** Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of this sensitive habitat. Measures to achieve not less than a 1:1 replacement, or no net loss, of Riversidean Alluvial Fan Sage Scrub shall include but not be limited to the following:<br>• Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreage of Riversidean Alluvial Fan Sage Scrub.<br>• Identify and map the selected mitigation ~~A~~areas where Riversidean Alluvial Fan Sage Scrub will be enhanced or restored ~~shall be mapped~~ using aerial photographs. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.<br>• Select offsite reference sites where Riversidean Alluvial Fan Sage Scrub is the established plant community. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, and native plant species richness (number of different plant species).<br>• Prepare and implement a site-specific Habitat Restoration Plan | Less than Significant |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| | that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:<br>o Site-specific container plant (if applicable) and seed palettes,<br>o Irrigation plan,<br>o Nonnative and invasive plant species removal,<br>o Maintenance and monitoring schedule,<br>o Qualitative and quantitative monitoring methodologies,<br>o Selection criteria of reference sites,<br>o Performance standards of the mitigation sites,<br>o Monitoring reports and annual reports schedule,<br>o Mitigation long-term management plan, and<br>o Funding description for implementation and long-term management.<br>• Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites and to show that not less than a 1:1 replacement of sensitive habitats has been achieved.<br>• Quantitatively monitor the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of Riversidean Alluvial Fan Sage Scrub has been achieved.<br>• Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:<br>o Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,<br>o Add soil amendments if problem soils may be | |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| | inhibiting plant growth,<br>o Replant if plant survival is low or to increase plant species cover or diversity,<br>o Install different plant species for plant species which are not surviving, and<br>o Close trails or install barriers if human caused impacts are damaging the mitigation sites.<br>• Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.<br>• Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.<br>**MM BIO – 7:** Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint, to identify native city-protected trees that would ~~will~~ be removed or potentially affected by the Proposed Project, ~~and~~ native city-protected trees that can be avoided, and native city-protected trees that will require root zone protection. LACFCD would ~~will~~ replace native city-protected trees that cannot be avoided. The replacement is expected to be at a ~~up to~~ 1:1 ratio by canopy acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads. The acreage occupied by the canopies of the native city-protected trees to be removed will determine the appropriate level of tree replacement. LACFCD shall identify tree replacement areas that are no less than the acreage of the native city-protected tree canopies to be removed. Priority for tree replacement locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. The number of replacement trees installed by LACFCD will be greater than the number of trees to be removed should the replacement tree | |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
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| | be smaller and younger than the tree to be removed. LACFCD shall monitor the survival of the replacement trees for 5 years and replace those that do not survive within the monitoring period, ensuring that not less than 1:1 ratio of replacement, or no net loss, has been achieved.<br><br>**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:<br><br>• Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub) and jurisdictional waters (federally protected wetlands).<br>• Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.<br>• Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance | |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| | standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.<br>• Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:<br>o Site-specific container plant and seed palettes,<br>o Irrigation plan,<br>o Nonnative and invasive plant species removal,<br>o Maintenance and monitoring schedule,<br>o Qualitative and quantitative monitoring methodologies,<br>o Selection criteria of reference sites,<br>o Performance standards of the mitigation sites,<br>o Monitoring reports and annual reports schedule,<br>o Mitigation long-term management plan, and<br>o Funding description for implementation and long-term management.<br>• Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.<br>• Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved. | |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| | • Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:<br>o Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,<br>o Add soil amendments if problem soils may be inhibiting plant growth,<br>o Replant if plant survival is low or to increase plant species cover or diversity,<br>o Install different plant species for plant species which are not surviving, and<br>o Close trails or install barriers if human caused impacts are damaging the mitigation sites.<br>• Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.<br>• Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.<br>• Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards. | |
| Biology-3: A significant impact will occur to wetlands. | See MM BIO-8, above. | Less than significant |

| Potential Impacts | Mitigation Measures | Level of significance after mitigation |
|---|---|---|
| Biology-4: A significant impact will occur to wildlife nursery sites. | See MM BIO-1 through MM BIO-8, above. | Less than significant |
| Biology-5: A significant impact will occur due to removal of native trees from the Proposed Project site. | See MM BIO-7, above. | Less than significant |
| **Cultural Resources** | | |
| Cultural-2: A significant impact will occur if sediment removal or reservoir management activities uncover unknown archaeological resources. | **MM CUL-1**: If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native sediments, these activities will be monitored by a qualified archaeologist. In the event this occurs and historic or archaeological materials are observed, the excavation in the proximity of the discovery should be diverted until a qualified archaeologist and/or paleontologist evaluates the discovery. | Less than significant |
| Cultural-3: A significant impact will occur if sediment removal or reservoir management activities uncover unknown paleontological resources. | **MM CUL-2:** If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native sediments, these activities will be monitored by a qualified paleontologist. In the event that this occurs and paleontological materials are observed, the excavation in the proximity of the discovery should be diverted until a qualified paleontologist evaluates the discovery. | Less than significant |
| Cultural-4: A significant impact will occur if sediment removal or reservoir management activities uncover human remains. | **MM CUL-3**: In the event human remains are discovered, all work in the area must be halted until the County Coroner identifies the remains and makes recommendations regarding their appropriate treatment pursuant to PRC Section 5097.98. | Less than significant |
| **Land Use and Planning** | | |
| Land Use-1: A significant impact will be associated with recreational activities coexisting with flood management and water conservation, as implementation of sediment removal and reservoir management under both management options will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities. | **MM LAN-1**: Temporary impacts to designated recreational facilities and trails shall be minimized through advance communication and redirection to the nearest facility in the vicinity of the Proposed Project. Prior to completion of final plans and specifications, the LACFCD shall review the plans and specifications to ensure that they contain proper language requiring that signs be posted at the nearby parking lots and trailheads at least one month in advance of sediment removal activities. | Less than significant |

# Section 3.5.6 AIR QUALITY – Impacts and Mitigation

# Pages 83 – 85

construction" as the most representative EMFAC2011 vehicle category for the sediment disposal trucks and generated an aggregate average emission factor for vehicle speeds 5 miles per hour (mph) to 45 mph for surface street mileage and 50 mph to 70 mph for highway mileage.

**Off-Road Equipment Emissions**

Off-road equipment brake horsepower and emission factors were obtained from the CalEEMod Users Guide. Since CalEEMod uses 2007OFFROAD default load factors and CARB has released an updated load factor list which demonstrates that, for most equipment types, the 2007OFFROAD model will result in a fairly significant overestimation of emissions; this AQR uses equipment load factors from the Carl Moyer Program Guidelines (CARB 2013).

**Employee Vehicle Emissions**

To generate expected exhaust emissions, this AQR used CARB's EMFAC2011 Web-Based Data Access as mentioned in the on-road trucks section. In order to more accurately represent the type of vehicles used by the potential employee work pool, a weighted average emission factor was generated using 69 percent of the pool using light-duty automobiles and the rest using light-duty trucks. The percentages were derived from the distributions of VMT from EMFAC2011.

**Fugitive Dust Emissions**

Emissions of $PM_{10}$ and $PM_{2.5}$ from fugitive sources were calculated using various methods. Fugitive dust from excavation activities, grading, and material loading were calculated using EPA's AP-42 methods (USEPA 1995).

**Localized Significance Thresholds**

The SCAQMD's LST methodology was developed to be used as a tool to assist lead agencies to analyze localized impacts associated with project-specific level proposed projects. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The emissions used for the purpose of LST analysis include only onsite activities.

### 3.5.6 Impacts and Mitigation

**AIR QUALITY-1** *Conflict with or obstruct implementation of the applicable air quality plan.*

Typically, assessments for air quality plan consistency use four criteria for determining project consistency with the current AQMP. The first and second criteria are from the SCAQMD. According to the SCAQMD, two key indicators of AQMP consistency are: (1) whether the project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and (2) whether the project will exceed the assumptions in the AQMP based on the year of project buildout and phase (SCAQMD 2006). The third criterion is compliance with the control measures in the AQMP. The fourth criterion is compliance with the SCAQMD regional thresholds.

Sediment Removal/Reservoir Management

*Contribution to Air Quality Violations*

As shown below in the impact discussions in AIR QUALITY-2 and AIR QUALITY-4, sediment removal activities have the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation. This is due to emissions of $NO_X$ exceeding the Daily Regional Thresholds during sediment removal, resulting in a potentially significant impact. Use of sediment removal dump trucks that meet EPA's emission standards for Model Year 2010 or later ~~2007~~ and use of off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment, would result in a reduction of $NO_X$ emissions to less than the SCAQMD Regional Threshold for $NO_X$. As EPA's NOx standard was phased-in for diesel engines between 2007 and 2010, use of sediment haul trucks that are Model Year 2010 or later will assure 100 percent compliance with EPA's NOx standard. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of $NO_X$ emissions to less than the SCAQMD Regional Threshold for $NO_X$. Therefore, impacts during sediment removal will be less than significant.

As shown below in the impact discussions in AIR QUALITY-2 and AIR QUALITY-4, reservoir management activities under both options will not violate any air quality standards or contribute substantially to any existing or projected air quality violations; therefore, the Proposed Project during reservoir management will be consistent with the first indicator. No significant impact would occur under either reservoir management options.

*AQMP Assumptions*

One way to assess project compliance with the AQMP assumptions is to ensure that the population density and land use are consistent with the growth assumptions used in the air plans for the air basin. According to CARB transportation performance standards, the rate of growth in vehicle miles traveled (VMT) and trips should be held to the rate of population growth (SCAQMD 2006). Compliance with this performance standard is one way suggested by CARB of showing compliance with the growth assumptions used in the AQMP. If the total VMT generated by the Proposed Project at buildout is at or below that predicted by the AQMP, then the Proposed Project's mobile emissions are consistent with the AQMP. It is assumed that the existing and future pollutant emissions computed in the AQMP were based on land uses from area general plans.

The Proposed Project under sediment removal and both reservoir management options does not create any overall population growth and therefore has no effect on growth assumptions used in the latest SCAQMD AQMP (SCAQMD 2012). Total long-term VMT generated by the Proposed Project is related to management activities and is considered minimal and will not affect consistency with the AQMP.

Mitigation Measures

**MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use only sediment removal dump trucks that meet EPA's emission standards for Model Year 2010 ~~2007~~ or later.

**MM AQ-2**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment.

Residual Impacts After Mitigation

Implementation of these mitigations would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal phase to a level of less than significant. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

Reservoir management activities under both options will not violate an air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the Proposed Project during reservoir management will be consistent with the first indicator. No significant impact would occur under either reservoir management option.

**AIR QUALITY-2** *Violate an air quality standard or contribute substantially to an existing or project air quality violation.*

Sediment Removal

Emissions will be related to the off-road equipment used to remove the sediment, including four front loaders with 4-cubic-yard buckets, two bulldozers, an excavator, a grader, water truck, and sorters/crushers. In addition, disposal trucks with 16 to 20 cubic yards of capacity are proposed to haul approximately 7,650 cubic yards of sediment per day. Removal of the sediment, vegetation, trees, and organic debris is expected to require an average of 50 truck trips per hour, with an estimated maximum of 425 truck round trips per day during excavation activities. The sediment disposal trucks will dispose of material either to the east and placed at the primary disposal site locations (the Waste Management Facility in Azusa, the Vulcan Materials Reliance Facility in Irwindale or the Manning Pit SPS in Irwindale) or to the west and placed in one of the facilities in Sun Valley. Removed vegetation and organic debris will be hauled to Scholl Canyon Landfill, located in the City of Glendale. It is estimated that for approximately three weeks during the first year of the Proposed Project, approximately 50 percent of the total trucking will be green waste debris trucked to the green waste facility at Scholl Canyon; and the remaining 50 percent of trucking will be sediment that will be distributed to the other sites. After the first year, during the first week approximately 25 percent of the total trucking will be green waste debris trucked to the Scholl Canyon Landfill; and the remaining 75 percent of trucking will be sediment distributed to the other sites. For the five years of sediment removal, it is estimated that for the total trips, approximately 3 percent will go to the Scholl Canyon Landfill, 78 percent will go to the Irwindale sites, and 19 percent will go to the Sun Valley sites.

Construction activities emissions, including dust emissions from soil disturbance and combustion pollutants from onsite construction equipment, from offsite trucks hauling sediment material, and from employees working on the Proposed Project would create a temporary addition of pollutants to the local airshed. These emissions were estimated using the following assumptions and methods.

Table 3.5-6: Unmitigated Sediment Removal Emissions provides a summary of the unmitigated emission estimates for sediment removal activity. Details of the air quality calculations are included in Appendix B.

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- For all earth-moving activity within 100 feet of property lines, maintain soil moisture content at a minimum of 12 percent, as determined by American Society for Testing and Materials (ASTM) method D-2216 or other equivalent approved method.

As shown in Table 3.5-7 below, use of sediment removal dump trucks that meet EPA's emission standards for Model Year 2010 or later ~~2007~~ and use of off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment would result in a reduction of the Proposed Project's combined $NO_X$ emissions during the sediment removal to less than the SCAQMD Regional Threshold for $NO_X$. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of $NO_X$ emissions and will reduce the $NO_X$ emissions to a level of less than significant for the sediment removal phase.

**Table 3.5-1: Sediment Removal Emissions with Model 2010 or later ~~2007~~ Sediment Removal Trucks and Tier 3 Off-road Equipment**

| Category | Maximum Daily Emissions (lbs/d) | | | | |
|---|---|---|---|---|---|
| | ROG | CO | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Off-Road | 4.7 | 33.99 | 22.05 | 22.60 | 2.15 |
| On-Road Trucks | 7.15 | 34.87 | 18.90 | 11.07 | 0.98 |
| Onsite Idling | 0.44 | 1.89 | 2.48 | 00.01 | 0.01 |
| Employees | 0.07 | 2.44 | 0.24 | 00.00 | 0.00 |
| Fugitive | 0.00 | 0.00 | 0.00 | 55.46 | 0.89 |
| Project Maximum Daily | 12.4 | 73.2 | 81.7 | 110.5 | 5.2 |
| SCAQMD Daily Threshold | 75.00 | 550.00 | 100.00 | 150.00 | 55.00 |
| **Exceeds Threshold?** | No | No | No | No | No |

Reservoir Management

Emissions will be related to the off-road equipment used for reservoir management under both options, including four front loaders with 2-cubic-yard buckets, one bulldozer, an excavator, a grader, water truck, and sorters/crushers. Removal of the sediment, vegetation, trees, and organic debris is expected to require an estimated 200 to a maximum of 300 truck trips per day. It is estimated that during the first week approximately 25 percent of the debris will be green waste trucked to the Scholl Canyon Landfill, and the remaining 75 percent of trucking will be sediment distributed to the other sites. During reservoir management, it is estimated that for the total trips, 2 percent will go to Scholl Canyon Landfill, 75 percent will go to the Irwindale sites, and 23 percent will go to the Sun Valley sites. Reservoir management activities will use only disposal trucks that meet EPA's emission standards for Model Year 2010 ~~2007~~ or later and Tier 3 or higher equipment.

Reservoir management activities emissions, including dust emissions from soil disturbance and combustion pollutants from onsite construction equipment, from offsite trucks hauling sediment material, and from employees working on the Proposed Project will create a temporary addition of

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**Table 3.5-1: Unmitigated Reservoir Management Activity**

| Category | Maximum Daily Emissions (lbs/d)* | | | | |
|---|---|---|---|---|---|
| | ROG | CO | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Off-Road | 2.86 | 17.29 | 19.26 | 0.98 | 0.98 |
| On-Road Trucks | 2.82 | 17.47 | 40.56 | 1.70 | 1.56 |
| Onsite Idling | 0.20 | 0.89 | 1.17 | 0.00 | 0.00 |
| Employees | 0.02 | 0.76 | 0.07 | 0.00 | 0.00 |
| Fugitive | 0.00 | 0.00 | 0.00 | 3.30 | 0.75 |
| Project Maximum Daily | 5.9 | 36.4 | 61.1 | 10.5 | 3.3 |
| SCAQMD Daily Threshold | 75.00 | 550.00 | 100.00 | 150.00 | 55.00 |
| **Exceeds Threshold?** | No | No | No | No | No |

* Reservoir management activities will use only disposal trucks that meet EPA's emission standards for Model Year 2010 ~~2007~~ or later and Tier 3 or higher equipment.

As shown in the above table, reservoir management under either option will not exceed any standard and will result in less than significant impacts.

Mitigation Measures

See Mitigation Measures MM AQ-1 and MM AQ-2.

Residual Impacts After Mitigation

Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal phase to a level of less than significant. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

Reservoir management under either option will not exceed any standard SCAQMD Regional Threshold; therefore, this impact will be less than significant.

**AIR QUALITY-3** *Result in a cumulatively considerable net increase of any criteria pollutants 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).*

Sediment Removal/Reservoir Management

In accordance with *CEQA Guidelines* 15130(b), this analysis of cumulative impacts incorporates a summary of projections. The following three-tiered approach is to assess cumulative air quality impacts.

- Consistency with the SCAQMD project-specific thresholds for construction and operation;
- Project consistency with existing air quality plans;

# Section 3.6.6 BIOLOGICAL RESOURCES – Impacts and Mitigation

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- Pushing a tree down with heavy machinery instead of felling the tree with a chainsaw
- First pushing the tree lightly 2 to 3 times with a pause of 30 seconds between each nudge to allow bats to become active, then pushing the tree to the ground slowly
- Allowing the tree to remain in place for 24 to 48 hours until inspected by the qualified biologist for presence or absence of roosting bats

- The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD.

Residual Impacts after Mitigation

With implementation of these mitigation measures, the Proposed Project under sediment removal and both management options would result in a less than significant impact on candidate, sensitive, or special status species.

**BIOLOGY-2** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

The vegetation communities within the Proposed Project area were mapped in 2013, are shown on Figure 3.6-2, and are described in Section 3.6.2 of the Final EIR. The potential impacts to the vegetation communities resulting from implementation of the sediment removal phase of the Proposed Project are listed below in Table 3.6-4. Sediment and native and nonnative vegetation will be removed from within the same Project boundary as during the sediment removal phase for both reservoir management Options 1 and 2 (Section 2.5.1). Therefore, the resulting impacts on the sensitive vegetation communities, which include riparian habitats (Riparian Woodland and Mule Fat Thickets), Riversidean Alluvial Fan Sage Scrub, and Coastal Sage Scrub will be the same for both Options 1 and 2. The impacts on these sensitive vegetation communities are described following the table.

**Table 3.6-4 – Proposed Project Impacts to Vegetation Communities During Sediment Removal Phase**

| **Vegetation Community** | **Acreage of Impacts** |
|---|---|
| **RIPARIAN** | |
| Mule Fat Thickets | 11.1 |
| Riparian Woodland (Black Willow Series) | 51.4 |
| **UPLAND** | |
| California Sagebrush-California Buckwheat Scrub | 3.1 |
| Riversidean Alluvial Fan Sage Scrub | 1.1 |
| **OTHER** | |
| Mustard and Annual Brome Semi-Natural Herbaceous Stand* | 22.8 |
| Escaped Cultivars* | 0.4 |
| Disturbed (Barren/Trails) | 1.9 |
| Scoured | 26.5 |
| **TOTAL** | **118.3** |
| ***Denotes nonnative plant community** | |

Sediment Removal/Reservoir Management

*Riversidean Alluvial Fan Sage Scrub*

~~The Proposed Project would impact approximately 1.1 acres of Riversidean Alluvial Fan Sage Scrub within the Proposed Project site.~~ Riversidean Alluvial Fan Sage Scrub is considered a sensitive natural community and it is a ~~to be of~~ high priority for inventory ~~by CDFW~~ in the California Natural Diversity Data Base (CNDDB) because of its significance and rarity. The scouring of the main channel and the deposition of sediment following the 2009 Station Fire and subsequent storms resulted in the removal and burial of much of the Riversidean Alluvial Fan Sage Scrub that was present in the upper portion of the reservoir prior to the sediment flows (Section 3.6.2, Figures 3.6-1 and 3.6-2). The remaining 1.1 acres of Riversidean Alluvial Fan Sage Scrub in the Proposed Project site that was not scoured or buried was limited to a small patch in the northwest portion of the Proposed Project site, a small patch in the channel near the east side of the Proposed Project site, and a linear patch located on the slope along the eastern edge of the upstream portion of the Proposed Project site (See Figure 3.6- 2).

During the sediment removal phase of the Proposed Project, approximately 1.1 acres of isolated patches of Riversidean Alluvial Fan Sage Scrub located in the upstream portion of the Proposed Project site would be removed along with the sediment that was deposited after the 2009 Station Fire (Figure 3.6-2). The plant species typically found in this vegetation community are adapted to living in dynamic wash systems (Smith 1980), such as the Arroyo Seco, where scouring of vegetation naturally occurs during storm events (Hanes et al. 1989). Consequently, these plant species would be expected to naturally re-establish in the Arroyo Seco wash after the sediment removal has been completed. The seeds from existing plants located upstream and outside of the Proposed Project boundary would be naturally deposited on the soils in the Proposed Project area by water during storm flows, by wind, and by animals (Smith 1980). The deposited seeds would be expected to germinate and grow into mature plants in areas where the soil and moisture conditions are favorable.

After the sediment removal phase of the Project is complete, mowing or removal of vegetation that becomes naturally reestablished in the reservoir management area would occur on an annual basis (Section 2.5.2). For Option 1, reservoir management would occur in the entire Proposed Project site; therefore, Riversidean Alluvial Fan Sage Scrub vegetation would be removed on an annual basis but it may regrow each year between maintenance activities. For Option 2, the impacts to the 1.1 acres of Riversidean Alluvial Fan Sage Scrub resulting from the sediment removal phase would be considered temporary because the area located between the reservoir management area boundary and the upstream boundary of the sediment removal area would not be disturbed at all during the reservoir management activities (Figure 2.5-5). Consequently, under Option 2, the LACFCD would be able to restore Riversidean Alluvial Fan Sage Scrub in the temporary impact area to supplement any plants that naturally established from seeds deposited on the soils by water, wind, and animals.

Impacts to Riversidean Alluvial Fan Sage Scrub, which is a sensitive natural community identified by CDFW in the CNDDB (CNDDB, CDFW 2017), would result in a significant impact requiring mitigation. To compensate for the ~~To minimize impacts due to~~ loss of 1.1 acres of isolated patches of Riversidean Alluvial Fan Sage Scrub resulting from the Proposed Project, the LACFCD would restore and/or enhance Riversidean Alluvial Fan Sage Scrub habitat either onsite or offsite to achieve not less than a 1:1 ratio of replacement for a no net loss of this vegetation community (MM BIO-6). ~~Mitigation Measure MM BIO-6 has been provided. Removing the sediment will also benefit the alluvial fan sage scrub since the habitat is currently buried under sediment and therefore considered poor quality.~~ The priority for determining

mitigation site locations for unavoidable impacts would be onsite (for the Proposed Project and Alternatives), offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed (CDFW Comment Letter #171). Aerial photographs, as well as on the ground vegetation surveys, would be utilized to assist with the identification of final impact acres prior to vegetation removal and existing Riversidean Alluvial Fan Sage Scrub vegetation that could be enhanced and areas where this vegetation community can be restored.

Ecological restoration is an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability and is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed (SER 2002). Habitat restoration generally refers to "the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning the majority of natural functions to the lost or degraded native habitat (Partners for Fish and Wildlife 2006a)." Habitat enhancement refers to the manipulation of the physical, chemical, or biological characteristics of a habitat to change a specific function or seral stage of the habitat (Partners for Fish and Wildlife 2006b). Enhancement includes removing nonnative and invasive plants species and installing supplemental seed or container plants to improve the condition of the habitat and to provide additional resources for wildlife species.

To guide the restoration and enhancement efforts, LACFCD, with assistance from professional restoration ecologists, would prepare a Habitat Restoration Plan that would identify the locations of the restoration and enhancement sites for Riversidean Alluvial Fan Sage Scrub as well as other riparian and sensitive vegetation communities impacted by the Proposed Project. The Habitat Restoration Plan would include the guidelines and specifications for installing container plants and seeds, irrigating the plantings, removing nonnative plants and weeds, conducting maintenance, conducting qualitative and quantitative monitoring, selecting reference sites, establishing performance standards, submitting progress reports, implementing long-term management and funding, which would lead to the success of the restoration and enhancement sites.

The success of the restoration and enhancement sites would be determined by using established methodologies (e.g., transects, quadrats, or other applicable methods) for conducting quantitative monitoring (Elzinga et al 1998) to calculate percent cover of native and nonnative plant species, and native plant species richness (number of plant species). LACFCD would select offsite reference sites, where Riversidean Alluvial Fan Sage Scrub is the established plant community, that would be used as the model for the restored and enhanced plant community. Quantitative monitoring would be conducted at the reference sites and the values measured at those sites would be used to establish performance standards that must be met to determine the success of the restoration and enhancement sites. Upon completion of the installation of the plant/seed materials or initiation of enhancement activities at the mitigation sites, LACFCD would prepare an as-built plan to verify the mitigation site acreages and monitoring at the reference sites, restoration sites, and enhancement sites would be conducted concurrently for five years or until the established performance standards are met. The LACFCD would ensure the allocation and encumbrance of the funds specifically to implement, maintain, and monitor the restoration activities at the mitigation sites until the performance standards are met, and therefore deemed successful. In addition, LACFCD would also ensure the allocation and encumbrance of the funds to cover the costs of the long-term management, maintenance, and protection of the mitigation sites.

If, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage mitigation sites, then

adaptive management measures would be implemented. Adaptive management measures will include but would not be limited to:

- Corrective re-grading of all or a portion of the mitigation site areas to correct hydrologic or other conditions negatively affecting the mitigation sites;
- Replanting in areas where plant survival is low or replanting to increase plant species cover or diversity;
- Installing different plant species for plant species which are not surviving;
- Adding soil amendments in areas where problem soils may be inhibiting plant growth; and,
- Closing trails or installing barriers if human impacts cause damage to the mitigation sites.

If the restoration or enhancement sites do not achieve the established performance standards after the implementation of adaptive management measures, then the required mitigation would be implemented at alternative sites and monitored until the established performance standards are achieved. The priority for determining alternative mitigation site locations would be onsite, offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.

Quantitative and qualitative monitoring of the restoration and enhancement sites would be conducted during each year until the sites achieve the performance standards. Annual monitoring reports would be prepared that describe all activities conducted throughout each year of monitoring, including the results of the quantitative and qualitative monitoring. The annual monitoring reports would be kept on file at LACFCD with copies to CDFW and USACE to provide documentation of the status of the restoration and enhancement sites and to provide the documentation of when the restoration and enhancement sites meet the required mitigation obligations.

Restoration of Riversidean Alluvial Fan Sage Scrub has been successfully accomplished as mitigation for other projects in southern California. Vulcan Materials Company (Vulcan) has been revegetating this plant community at their Cajon Creek Habitat Conservation Management Area (Management Area) since 1992 (Cajon Creek Revegetation Analysis 2013). The revegetation was required as mitigation for impacts at Vulcan's San Bernardino mining facility and for impacts associated with the Cajon Creek Specific Plan. Vulcan prepared a Habitat Enhancement and Management Plan (HEMP) that included the numerous management activities Vulcan was required to implement to address trespass and nonnative weed infestations and to create, restore, and enhance habitat (Blane 1996). The purpose of Vulcan's revegetation efforts within the Management Area was to restore natural components of Riversidean Alluvial Fan Sage Scrub to the extent practical to provide suitable plant and wildlife habitat (Cajon Creek Revegetation Analysis 2013). Between 1992 and 2008, Vulcan successfully revegetated over 100 acres of Riversidean Alluvial Fan Sage Scrub and all of the revegetation sites met the established performance standards in four years or less after the initial seeding of the sites (Cajon Creek Revegetation Analysis 2013). The exception was one site that was planted in 2001 but the quantitative monitoring wasn't conducted until 2008 so it is unknown when the site actually met the performance standards (Cajon Creek Revegetation Analysis 2013). Vulcan's success at revegetating Riversidean Alluvial Fan Sage Scrub on mitigation sites at the Management Area provides proof that this plant community can be successfully restored.

A Mitigated Negative Declaration (MND) prepared for the Quail Run Apartment project in the City of Riverside required a 1:1 mitigation ratio for impacts to Riversidean Alluvial Fan Sage Scrub and to riparian habitats, including willow-mule fat woodland, mule fat scrub, and riverine areas (City of Riverside 2016a). The mitigation included replacing/restoring these habitats with the same habitats at a

1:1 ratio. The Quail Run Apartment project's grading plan was revised to accommodate full on-site mitigation for the impacts to the riparian habitat and other sensitive plant communities (Riversidean Alluvial Fan Sage Scrub) (City of Riverside 2016a). Full on-site mitigation for the project was determined in consultation with the Western Riverside County Regional Conservation Agency (RCA), USFWS, CDFW, and the Santa Ana Regional Water Quality Control Board (Santa Ana Regional Board), and a site visit with the staff from the USFWS, CDFW, and Santa Ana Regional Board (City of Riverside 2016a). Mitigation measures for the Quail Run Apartment project included conducting breeding bird surveys, setting up buffers around active nests, and preparation of a restoration plan by the Applicant for submittal to the City of Riverside. The City of Riverside would be responsible for submitting the restoration plan to the RCA, CDFW, and USFWS and would also be responsible for ensuring that the restoration actions were carried out and successful. The mitigation measures also included placing the mitigation areas under a conservation easement dedicated to the RCA or other approved mitigation entity. The conclusions related to biological resources stated that, with implementation of the mitigation measures requiring the preparation, approval, and implementation of a detailed habitat restoration plan and recordation of a conservation easement, there would be no net loss of riparian/riverine habitats (City of Riverside 2016a). The conclusions also stated that, although implementation of the Quail Run Apartment project may result in the loss of federal and state jurisdictional waters, the impacts would be reduced to less than significant because the project would implement a mitigation measure requiring the applicant to obtain permits from the USACE, CDFW, and RWQCB prior to the issuance of a grading permit and requiring the applicant to adhere to the conditions placed on the permits. In the Mitigation Monitoring and Reporting Program (MMRP) for the Quail Run Apartment project (City of Riverside 2017a), the mitigation measure addressing authorizations from the regulatory agencies also states that "Project-specific impacts to jurisdictional waters shall be mitigated by USACE, CDFW, and the RWQCB where applicable." Two other mitigation measures stipulated no trespass of construction limits should occur into jurisdictional waters and that no drainage for subsequent development would be designed to flow or be directed into the mitigation areas. The Quail Run Apartment Project was approved by the City of Riverside on May 19, 2016 (City of Riverside 2016b).

Based on the success that Vulcan has had at revegetating Riversidean Alluvial Fan Sage Scrub at their Cajon Creek Management Area and the precedent set by the City of Riverside for requiring a 1:1 mitigation ratio to compensate for impacts to this sensitive vegetation community, the 1:1 mitigation ratio required by MM BIO-6 for the Proposed Project would result in the successful replacement of the same acreage of Riversidean Alluvial Fan Sage Scrub that would be affected by the Proposed Project. Implementation of the specifications and management activities included in the Habitat Restoration Plan prepared by LACFCD for the Proposed Project and monitoring of the Riversidean Alluvial Fan Sage Scrub restoration and enhancement sites by LACFCD until they are successful would ensure the mitigation would fully offset the impacts of the Proposed Project.

The LACFCD will implement the measures necessary to achieve successful restoration and enhancement of Riversidean Alluvial Fan Sage Scrub. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of this sensitive habitat. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement Riversidean Alluvial Fan Sage Scrub mitigation at alternative sites and monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, Riversidean Alluvial Fan Sage Scrub can be successfully restored and enhanced. Successful restoration and enhancement of Riversidean

Alluvial Fan Sage Scrub would achieve not less than a 1:1 replacement and result in a no net loss of this sensitive vegetation community. Therefore, ~~With~~ ~~I~~implementation of ~~this mitigation measure,~~ Mitigation Measure MM BIO-6 would reduce impacts to Riversidean Alluvial Fan Sage Scrub ~~would be reduced~~ to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-6 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Coastal Sage Scrub (California Sagebrush – California Buckwheat Scrub)*

In 2010, large patches of California Sagebrush – California Buckwheat Scrub surrounded the riparian habitat in the northern portion of the Proposed Project site (Section 3.6.2). These patches were largely replaced with scoured areas (Section 3.6.2) by the storm flows following the 2009 Station Fire. Most of the scouring of this vegetation community occurred along the northwestern bank of the Proposed Project site (Figures 3.6-1 and 3.6-2). Only much smaller patches of California Sagebrush – California Buckwheat Scrub remained in 2013 (Section 3.6.2).

During the sediment removal phase of the Proposed Project, approximately 3.1 acres of isolated patches of California Sagebrush – California Buckwheat Scrub located in patches in the upstream portion of the Proposed Project site would be removed along with the sediment that was deposited after the 2009 Station Fire (Figure 3.6-2). After the sediment removal phase of the Project is complete, mowing or removal of vegetation that becomes naturally reestablished in the reservoir management area would occur on an annual basis (Section 2.5.2). For Option 1, reservoir management would occur in the entire Proposed Project site; therefore, plants associated with the Coastal Sage Scrub plant community that might become established along the banks of the management area would be removed on an annual basis but it may regrow each year between maintenance activities. For Option 2, most of the impacts to the 3.1 acres of Coastal Sage Scrub resulting from the sediment removal phase would be considered temporary because the area located between the reservoir management area boundary and the upstream boundary of the sediment removal area would not be disturbed at all during the reservoir management activities (Figure 2.5-5). Consequently, under Option 2, the LACFCD would be able to restore the Coastal Sage Scrub plant community along the banks of the channel in the temporary impact area.

Coastal Sage Scrub within the range of the coastal California gnatcatcher is of concern to the USFWS because of its potential to support this federal-listed threatened species. Habitat loss and fragmentation of Coastal Sage Scrub throughout the range of this species was used as a determining factor for listing the species in 1993 (USDOI 1993). Impacts to Coastal Sage Scrub would potentially result in a significant impact requiring mitigation, particularly if the habitat is occupied by the coastal California gnatcatcher. During focused protocol-level surveys conducted for this species in 2016, coastal California gnatcatchers were not observed in the Coastal Sage Scrub habitat areas located in or adjacent to the Proposed Project site. To compensate for the loss of Coastal Sage Scrub resulting from the Proposed Project, the LACFCD would restore and/or enhance Coastal Sage Scrub habitat either onsite or offsite to achieve not less than a 1:1 ratio of replacement for a no net loss of this vegetation community (MM BIO-8). The priority for determining locations for unavoidable impacts would be onsite (for the Proposed Project and Alternatives), offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed (CDFW Comment Letter #171). LACFCD would conduct biological surveys to determine final impact acres prior to vegetation removal and identify the suitability of potential Coastal Sage Scrub mitigation sites.

As described above for Riversidean Alluvial Fan Sage Scrub, the LACFCD would prepare a Habitat Restoration Plan to guide the restoration and enhancement effort at the identified Coastal Sage Scrub mitigation sites. The Habitat Restoration Plan would include guidelines and specifications for installing container plants and seeds, irrigating the plantings, removing nonnative plants and weeds, conducting maintenance, conducting qualitative and quantitative monitoring, selecting reference sites, establishing performance standards, submitting progress reports, implementing long-term management and funding, which would lead to the success of the restoration and enhancement sites. The success of the mitigation sites would be determined by using established methodologies (e.g., transects, quadrats, or other applicable methods) for conducting quantitative monitoring (Elzinga et al 1998, CWMW 2013) to calculate survivorship of the plantings, percent cover of native and nonnative plant species, and native plant species richness. LACFCD would select offsite reference sites, where Coastal Sage Scrub is the established plant community, that would be used as the model for the restored and enhanced plant community. Subsequent to implementation, as described for Riversidean Alluvial Fan Sage Scrub, an as-built plan would be prepared to verify mitigation site acreages and quantitative monitoring at the reference, restoration, and enhancement sites, would be conducted for five years or until the established performance standards are met. The LACFCD would ensure the allocation and encumbrance of the funds specifically to implement, maintain, and monitor the restoration activities at the mitigation sites until the performance standards are met, and therefore deemed successful. In addition, LACFCD would also ensure the allocation and encumbrance of the funds to implement the long-term management, maintenance, and protection of the mitigation sites.

As described above for Riversidean Alluvial Fan Sage Scrub, if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage mitigation sites, then adaptive management measures would be implemented.

If the restoration or enhancement sites do not achieve the established performance standards after the implementation of adaptive management measures, then the required mitigation would be implemented at alternative sites and monitored until the established performance standards are achieved. The priority for determining alternative mitigation site locations would be onsite, offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.

Quantitative and qualitative monitoring of the restoration and enhancement sites would be conducted during each year until the sites achieve the performance standards. Annual monitoring reports would be prepared that describe all activities conducted throughout each year of monitoring, including the results of the quantitative and qualitative monitoring. The annual monitoring reports would be kept on file at LACFCD with copies to CDFW, USACE, and RWQCB to provide documentation of the status of the restoration and enhancement sites and to provide the documentation of when the restoration and enhancement sites meet the required mitigation obligations.

Restoration of Coastal Sage Scrub vegetation has been conducted successfully in southern California, as evidenced by the restoration conducted for the Tonner Hills Planned Community project in the City of Brea in Orange County. In February 2004, a Final Coastal Sage Scrub Mitigation and Monitoring Plan (Chambers 2004) was prepared to address impacts of the project on Coastal Sage Scrub vegetation that was occupied or potentially occupied by the coastal California gnatcatcher, a federal threatened species. The plan described the methods to be used to restore and enhance Coastal Sage Scrub within the project's 473.2-acre habitat conservation area. The project included the phased restoration of 116.6 acres of Coastal Sage Scrub prior to and during the implementation of the development project.

Implementation of the habitat restoration in Revegetation Areas A (14 acres) and B (20 acres), was conducted in 2003/2004. The final performance criteria for the 14-acres and 20-acres revegetation areas that were stated in the CSS Habitat Mitigation Plan required 75% cover of native shrubs, a minimum of 80% of the plant species represented (after 3 years), evidence of natural reproduction, less than 5% cover of non-native species (after 5 years), and evidence of use by wildlife species. Additional performance criteria for Areas A and B were required by the USFWS to offset impacts to coastal California gnatcatcher and suitable Coastal Sage Scrub habitat for this species. Prior to the initiation of construction in two planning areas, breeding gnatcatchers had to be documented within revegetation Area A and the Coastal Sage Scrub habitat in Area B had to represent occupiable conditions for the gnatcatcher. Regular maintenance, monitoring (qualitative and quantitative), and reporting was conducted to determine when the two revegetation areas met the established performance criteria. On July 15, 2005, the USFWS signed a letter of approval for the 14-acre and 20-acre Coastal Sage Scrub restoration sites (USFWS 2005). The USFWS agreed that the two restoration sites (A and B) had met the performance standards identified in the Coastal Sage Scrub Mitigation and Monitoring Plan and that both areas were occupied by breeding gnatcatchers.

An EIR and MMRP prepared for the Rambla Pacifico Street Reconstruction project in the City of Malibu required a 1:1 mitigation ratio for impacts to Coastal Sage Scrub habitat (City of Malibu 2010a). The project is located within the coastal zone and is subject to the regulations of the City of Malibu Local Coastal Program (LCP). The area of impact to Coastal Sage Scrub habitat associated with project grading encroached into designated environmentally sensitive habitat area (ESHA). Mitigation for disturbance of ESHA was required to comply with the LCP Local Implementation Plan (LIP) Section 4.8.1, which requires mitigation of habitat impacts through the restoration of an area of degraded habitat equivalent to the affected habitat (City of Malibu 2002). Mitigation included restoration of 1.9 acres of Coastal Sage Scrub habitat impacted during grading activities (City of Malibu 2016a). In addition to the restoration, the mitigation measures for the Rambla Pacifico Street Reconstruction project included installation of Best Management Practices (BMPs) to protect adjacent sensitive areas, conducting breeding bird surveys, setting up buffers around active nests, monitoring vegetation removal, and preparation of a restoration plan by the Applicant for submittal to the City of Malibu. The mitigation measures also indicated that habitat restoration would be carried out prior to or concurrently with construction activities, and that the habitat restoration areas will be permanently maintained as open space through a recordation of an open space deed restriction (City of Malibu 2010a). The City of Malibu was responsible for ensuring that the restoration actions were carried out and successful. The City of Malibu Planning Commission certified the EIR for the Rambla Pacifico Street Reconstruction Project on June 1, 2010 (City of Malibu 2010b).

Based on the success that the Tonner Hills Planned Community project had at restoring Coastal Sage Scrub in their habitat conservation area and the precedent set by the City of Malibu for requiring a 1:1 mitigation ratio to compensate for impacts to sensitive vegetation communities, the 1:1 mitigation ratio required by MM BIO-8 for the Proposed Project would result in the successful replacement of the same acreage of Coastal Sage Scrub that would be affected by the Proposed Project. Implementation of the specifications and management activities included in the Habitat Restoration Plan prepared by LACFCD for the Proposed Project and monitoring of the Coastal Sage Scrub restoration and enhancement sites by LACFCD until they are successful would ensure the mitigation would fully offset the impacts of the Proposed Project.

The LACFCD will implement the measures necessary to achieve successful restoration and enhancement of Coastal Sage Scrub. The LACFCD, with the help of professional restoration ecologists, will develop a

Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of this sensitive habitat. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement Coastal Sage Scrub mitigation at alternative sites and monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, Coastal Sage Scrub can be successfully restored and enhanced. Successful restoration and enhancement of Coastal Sage Scrub would achieve not less than a 1:1 ratio of replacement and no net loss of this sensitive vegetation community. Therefore, implementation of Mitigation Measure MM BIO-8 would reduce impacts to Coastal Sage Scrub to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Riparian Habitats*

Implementation of ~~T~~the sediment removal phase of the Proposed Project would result in the removal of ~~impact~~ riparian habitats, including approximately 51.4 acres of Riparian Woodland and 11.1 acres of Mule Fat Thickets~~ within the Proposed Project site~~. The areas where the Riparian Woodland and Mule Fat Thickets occur within the Proposed Project site have been heavily affected by the influx of sediment that happened after the 2009 Station Fire and subsequent storms (Chambers 2010a). Portions of the Riparian Woodland and much of the Mule Fat Scrub were completely buried by sediment and in some places, the sediment was up to approximately 18 feet deep (Section 3.6.2). Also, the secondary structure of the Riparian Woodland in many areas was lost due to the accumulation of sediment that buried the native understory shrubs and herbaceous plant species under the riparian trees (Section 3.6.2). This loss of secondary structure of native plant species in Riparian Woodland eliminates potential nesting, roosting, and cover sites for common and sensitive species of birds and other wildlife that primarily use the vegetation in the shrub and herbaceous plant layers (RHJV 2004).

The large distribution of Mule Fat Thickets located in the upstream portion of the reservoir prior to the influx of sediment (see Figure 3.6-1 and Figure 3-6.2) was almost completely removed by the scouring flows after the 2009 Station Fire (Section 3.6.2). After the influx of sediment into the reservoir, remnant Mule Fat Thickets were mapped in scattered patches along the western portion of the reservoir and just south of the first percolation basin on the east side of the reservoir (Figure 3.6-2). In addition, patches of Mule Fat Thickets were also located near the face of the dam but these were noted as being an early seral stage of this plant community (Section 3.6.2). This early seral stage includes seedlings and saplings rather than mature plants, which indicates the mule fat vegetation grew in after the deposition of sediment near the dam. Mule fat seeds germinate rapidly in areas where flooding, fire, or other disturbances occur so this plant community would be expected to naturally fill in where soil conditions meet the specific needs of the plant species and where there would not be too much competition with nonnative plant species (Allen and Roberts 2013) for resources.

The influx of sediment into the reservoir following the Station Fire provided an opportunity for weeds and nonnative and invasive species of plants to become established in the disturbed areas, including on top of the accumulated sediments in the remaining native riparian habitats. The acreage of nonnative, weedy vegetation in the Proposed Project area increased from 7.64 acres in 2010 to approximately 22.8 acres in 2013 due to frequent disturbance from sedimentation and erosion during storm events (Section 3.6.2). Nonnative and invasive plant species have become established throughout much of the

Proposed Project site, including in those areas where Riparian Woodland and Mule Fat Thickets were previously located. Figures 3.6-1 and 3.6-2 show the difference in the distributions of nonnative plants, Riparian Woodland, and Mule Fat Thickets in 2010 and 2013, respectively. Large patches of nonnative plants, classified as Mustard and Annual Brome Semi-Natural Herbaceous Stand, occupy 22.8 acres within the Proposed Project site and are interspersed between patches of riparian habitats, which has resulted in fragmentation of the riparian habitats (Figure 3.6-2). The nonnative and invasive plant species present in the Proposed Project area include Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), short-pod mustard (*Hirschfeldia incana*), curly dock (*Rumex crispus*), wild radish (*Raphanus sativus*), red-stemmed filaree (*Erodium cicutarium*), bristly ox-tongue (*Helminthotheca echioides*), tree tobacco (*Nicotiana glauca*), perennial pepper weed (*Lepidium latifolium*), and nonnative grasses (*Bromus spp*.) (Section 3.6.2). Weeds and nonnative and invasive plant species germinate quickly in disturbed areas and will invade native plant communities where they can outcompete native plant species for resources (Hayes and Holzmueller 2012). Fragmentation of native plant communities by nonnative and invasive plants or replacement of native plants by nonnative and invasive plant species causes degradation of the native plant communities (NRCS 2010). The portions of the riparian habitats in the Proposed Project site that were fragmented by, or replaced with nonnative and invasive plant species after the 2009 Station Fire and subsequent storms are considered degraded from the habitat conditions present prior to the fire and subsequent storms.

After the sediment removal phase of the Project is complete, mowing or removal of vegetation that becomes naturally reestablished in the reservoir management area would occur on an annual basis. Under Option 1, reservoir management would occur in the entire Proposed Project site; therefore, plant species characteristic of the Riparian Woodland and Mule Fat Thicket vegetation communities would be removed on an annual basis but may regrow each year between maintenance activities (Figure 2.5-1). Under Option 2, the impacts to a portion of the riparian habitats located upstream of the boundary of the reservoir management area would be considered temporary because the area located between the reservoir management area boundary and the upstream boundary of the sediment removal area would not be disturbed at all during the reservoir management activities (Figure 3.6-5). Consequently, under Option 2, the LACFCD would replant this 29-acre temporary impact area with Riparian Woodland and Mule Fat Thicket vegetation communities where appropriate in addition to planting Riversidean Alluvial Fan Sage Scrub, as described previously.

The riparian habitats in the Proposed Project site have been fragmented and degraded due to the presence of large patches of nonnative and invasive plants. Without intervention, which would include the removal and ongoing management of the nonnative and invasive plants, the nonnative and invasive plants will continue to spread and further degrade the riparian habitats in Devil's Gate Reservoir. Removal of riparian habitats, including both Riparian Woodland and Mule Fat Thickets, ~~are rare plant communities and provide nesting habitat for riparian species; impacts to these habitats~~ would result in a significant impact~~.~~ requiring mitigation. However, the removal of the nonnative and invasive plants in the reservoir would result in a beneficial impact of the project. To compensate for ~~To minimize impacts due to~~ the loss of the Riparian Woodland and Mule Fat Thickets~~, Mitigation Measures MM BIO-7 and MM BIO-8 have been provided.~~ resulting from the Proposed Project, the LACFCD would restore and enhance areas to create undisturbed, unfragmented, and structurally diverse Riparian Woodland and Mule Fat Thickets onsite and/or offsite and would remove exotic plant species from onsite and offsite areas supporting these riparian habitats to achieve not less than a 1:1 ratio of replacement for no net loss of these vegetation communities (MM BIO-7 and MM BIO-8).

The design of the created, restored, or enhanced riparian habitats that LACFCD would implement as mitigation for the loss of degraded riparian habitats would include installing native plant species and creating the appropriate vegetation structure to support the nesting activities of least Bell's vireos and other riparian species. Restoration under MM BIO-7 and BIO-8 would include but not be limited to:

- creating new riparian habitat in areas where it does not currently exist;
- removing nonnative plants from riparian habitats and replanting with native plant species;
- creating structurally diverse riparian habitat by planting additional shrub and tree species in areas where structural diversity is lacking;
- repairing damaged or disturbed areas by planting them with native plant species; and,
- restoring continuity between fragmented patches of riparian habitat by planting native plant species to fill in the gaps.

The priority for determining mitigation site locations for unavoidable impacts would be onsite (for the Proposed Project and Alternatives), offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed (CDFW Comment Letter #171). LACFCD would conduct biological surveys to determine final impact acres prior to vegetation removal and identify the suitability of potential mitigation sites for riparian creation, restoration, and/or enhancement opportunities and for wildlife movement preservation where the sites can be protected and managed.

As described above for Riversidean Alluvial Fan Sage Scrub, LACFCD would prepare a Habitat Restoration Plan to guide the restoration and enhancement effort at the identified riparian mitigation sites. The Habitat Restoration Plan would include guidelines and specifications for installing container plants, willow and mule fat cuttings, and seeds, irrigating the plantings, removing nonnative plants and weeds, conducting maintenance, conducting qualitative and quantitative monitoring, selecting reference sites, establishing performance standards, submitting progress reports, implementing long-term management and funding, which would lead to the success of the restoration and enhancement sites. The success of the restoration and enhancement sites would be determined by using established methodologies (e.g., transects, quadrats, California Rapid Assessment Method, USFWS established survey protocols, or other applicable methods) for conducting quantitative monitoring (Elzinga et al 1998, CWMW 2013) to calculate survivorship of the plantings, percent cover of native and nonnative plant species, native plant species richness, structural patch richness, and wildlife use. LACFCD would select offsite reference sites, where Willow Woodland and Mule Fat Thickets are the established plant communities, that would be used as the models for the restored and enhanced plant communities. Quantitative monitoring would be conducted at the reference sites and the values measured at those sites would be used to establish performance standards that must be met to determine the success of the restoration and enhancement sites. Subsequent to implementation, as described for Riversidean Alluvial Fan Sage Scrub, an as-built plan would be prepared to verify mitigation site acreages and quantitative monitoring at the reference, restoration, and enhancement sites, would be conducted for five years or until the established performance standards are met. The LACFCD would ensure the allocation and encumbrance of the funds specifically to implement, maintain, and monitor the restoration activities at the mitigation sites until the performance standards are met and therefore deemed successful. In addition, LACFCD would also ensure the allocation and encumbrance of the funds to implement the long-term management, maintenance, and protection of the mitigation sites.

If, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage mitigation sites, adaptive management measures would be implemented. As described above for Riversidean Alluvial Fan Sage

Scrub, adaptive management measures would include but not limited to regrading restoration sites, replanting areas or installing different plant species, adding soil amendments, or alleviating human impacts by closing trails or installing barriers.

If the restoration or enhancement sites do not achieve the established performance standards after the implementation of adaptive management measures, then the required mitigation would be implemented at alternative sites and monitored until the established performance standards are achieved. The priority for determining alternative mitigation site locations would be onsite, offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.

Quantitative and qualitative monitoring of the restoration and enhancement sites would be conducted during each year until the sites achieve the performance standards. Annual monitoring reports would be prepared that describe all activities conducted throughout each year of monitoring, including the results of the quantitative and qualitative monitoring. The annual monitoring reports would be kept on file at LACFCD with copies to CDFW, USACE, and RWQCB to provide documentation of the status of the restoration and enhancement sites and to provide the documentation of when the restoration and enhancement sites meet the required mitigation obligations.

A comparative study conducted by researchers at the University of California, Los Angeles (UCLA) and the University of California, San Francisco (UCSF) for the California State Water Resources Control Board (SWRCB) evaluated compliance and wetland condition of compensatory wetland mitigation projects associated with Clean Water Act Section 401 Water Quality Certifications throughout California (Ambrose et al 2007). The authors also evaluated mitigation requirements from other regulatory agencies, such as USACE Section 404 permits, CDFW Section 1600 permits, and mitigation plans. One-hundred forty-three (143) Section 401 permits were randomly selected by the authors and evaluated throughout all 12 SWRCB Regions in the state of California. Approximately 65 percent of the evaluated permits included creation or restoration, 24% included enhancement, and 11% included preservation. Forty-seven or approximately 33 percent of the evaluated permits were from the four southern California regions (Regions 4, 7, 8, and 9) and 13 percent were from Region 4, which includes portions of Los Angeles and Ventura Counties. Region 4 was reported to be unique in that mitigation was required by the regulatory agencies for impacts to non-"waters," including coastal sage scrub and alluvial fan scrub uplands.

Approximately 16 percent of the 143 permits evaluated required mitigation ratios of 1:1 or less and approximately 70 percent of those projects were successful in achieving or exceeding the mitigation acreage required in the permits. A table summarizing the permits from the comparative study that required a 1:1 mitigation ratio or less is included in Appendix L. Approximately 65 percent of the permits requiring a 1:1 or less mitigation ratio were in the four southern California regions with 26 percent of those in Region 4. The results of the comparative study showed that approximately 67 percent of the projects in Region 4 that required a 1:1 mitigation ratio were successful in achieving or exceeding the mitigation acreage required in the permits.

A project included in the comparative study that was conducted in San Diego Creek in Orange County by the Irvine Ranch Water District impacted a total of 14.60 acres of jurisdictional habitat, including 1.0 acre of woody riparian wetland habitat, 11.60 acres of herbaceous wetland habitat, and 2.0 acres of ruderal wetland habitat plus 61.50 acres of non-jurisdictional pond habitat (Ambrose et al 2007) (Appendix L). A mitigation ratio of 1:1 was required by the 401 and 404 permits for the project and consisted of the creation of 14.60 acres of jurisdictional habitat, including 11.10 acres of wetlands, 2.50

acres of non-streambed open water, and 1.00 acre of riparian habitat. The project was successful in creating the required acreage of mitigation and the authors of the comparative study noted that the vegetation consisted primarily of black willows, cottonwoods, sycamores, mule fat, sagebrush, bulrush, mugwort, and phacelia with very few nonnative plant species present in the mitigation sites (Appendix L). The authors also noted that many animals were also present at the site, including small and large mammals, lizards, fish, ducks, and passerine birds (Ambrose et al 2007).

Another project listed in the comparative study that was conducted by the Ventura County Department of Airports involved the removal of sediment and debris from the Camarillo Hills Drain to restore design flow capacity (Appendix L). The required mitigation ratio in both the 401 and 404 permits was 1:1 for impacts to 9.3 acres of Waters of the U.S. The required mitigation was enhancement only of 9.3 acres of Waters of the U.S., which included removal of exotic plants within the low flow channel.

The Piru Creek Bridge project in Los Angeles County involved Caltrans' rehabilitation of the south abutment of the old Route 99 Bridge (53-82) over Piru Creek in the Angeles National Forest (Ambrose et al 2017). Caltrans removed existing broken concrete and ungrounted rock slope protection and placed fill to construct a new embankment. To construct the new embankment, Caltrans had to divert Piru Creek, which resulted in a total of 1.50 acres of impacts to jurisdictional habitat, including 0.40 acres of wetland habitat. The mitigation ratio required in the 404 permit was 1:1 and the mitigation consisted of the replacement and enhancement of the native vegetation disturbed by the construction activities with cottonwood, willow, and mule fat cuttings. The authors of the comparative study indicated that the vegetation at the mitigation site was primarily arroyo willow, red willow, cottonwoods, toyon, and mule fat, and they noted that it blended well with the natural vegetation. The project successfully restored and enhanced the required acreage of mitigation (Appendix L).

California state and federal policies have established goals of no net loss of wetland area or function (USEPA 2002, State of California 1993). The authors' results showed that "no net loss" of acreage was achieved (1) overall, (2) for jurisdictional "waters of the U.S." acreage, and (3) for wetlands themselves when comparing permanent impacts (true losses) to the mitigation acreage gained through habitat creation and restoration (true gains) (Ambrose et al 2007).

The success of projects that were required to create, restore, and/or enhance riparian habitats at a 1:1 mitigation ratio to compensate for impacts to riparian habitats and jurisdictional habitats has been documented in the comparative study conducted by researchers at UCLA and UCSF (Ambrose et al 2007). The success of permitted projects and the precedent set by the City of Riverside (described above under the heading for Riversidean Alluvial Fan Sage Scrub) and regulatory agencies for requiring a 1:1 mitigation ratio to compensate for impacts to riparian habitat, provides support that the 1:1 mitigation ratio required by MM BIO-7 and MM BIO-8 for the Proposed Project would result in the successful replacement of the same acreage of riparian habitats that would be affected by the Proposed Project. Implementation of the specifications and management activities included in the Habitat Restoration Plan prepared by LACFCD for the Proposed Project and monitoring of the riparian habitat restoration and enhancement sites until they are successful by LACFCD would ensure the mitigation would fully offset the impacts of the Proposed Project.

The LACFCD will implement the measures necessary to achieve successful restoration and enhancement of Riparian Woodland and Mule Fat Thickets. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of these sensitive habitats. The LACFCD will implement the Habitat

Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement Riparian Woodland and Mule Fat Thicket mitigation at alternative sites and monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, Riparian Woodland and Mule Fat Thickets can be successfully restored and enhanced. Successful restoration and enhancement Riparian Woodland and Mule Fat Thickets would achieve not less than a 1:1 replacement, or no net loss, of these sensitive natural communities. Therefore, implementation of Mitigation Measures MM BIO-7 and MM BIO-8 would reduce impacts to riparian habitats to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measures MM BIO-7 and BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*California Department of Fish and Wildlife*

~~At Devil's Gate Reservoir, the OHWM of the reservoir exists up to the 1020 contour line. Wetland, as defined by USACE, exist within the OHWM area of Devil's Gate Reservoir. All three agencies have jurisdiction over this wetland within the Proposed Project site where there will be permanent impacts. USACE, CDFW and RWQCB have jurisdiction of the riparian habitat within the proposed project boundary, up to the HWM. Jurisdictional acreages were calculated within the Proposed Project site.~~

Table 3.6-5 lists the acreages of areas delineated as jurisdictional by the USACE, RWQCB, and CDFW. Approximately 101.13 acres of areas that fall within the boundary of CDFW jurisdictional areas, including riparian habitats and sensitive natural communities, would be impacted during the sediment removal phase of the Proposed Project.

The CDFW Jurisdictional Areas Map on Figure 3.6-4~~: CDFW Jurisdictional Areas Map~~ shows the areas considered to be jurisdictional by CDFW that would be impacted during the sediment removal and reservoir management phases of the Proposed Project, Option 1, and during the sediment removal phase only for the Proposed Project, Option 2 (Figure 3.6-5). Implementation of the sediment removal phase of the Proposed Project would result in the removal of sediment and the riparian habitats and nonnative plant communities within the boundaries of CDFW jurisdiction. The riparian vegetation and channel within the banks of Devil's Gate Reservoir and the associated wildlife species would fall under the jurisdiction of the CDFW through Fish and Game Code Section 1602. Impacts to wildlife are described below under **BIOLOGY-4.** The impacts of the Proposed Project on Riversidean Alluvial Fan Sage Scrub and riparian habitats that fall under the jurisdiction of CDFW would be the same as the impacts previously described above under the headings of "Riversidean Alluvial Fan Sage Scrub" and "Riparian Habitats." ~~jurisdictional acreages for the USACE, RWQCB, and the CDFW for waters and for vegetation impacts. Impacts to jurisdictional waters found within these~~

~~water features would result in a significant impact requiring mitigation. To minimize impacts due to loss of jurisdictional waters, Mitigation Measure MM BIO-8 has been provided.~~

**Table 3.6-~~1~~5: Jurisdictional Acreage Matrix**

| Authority | Jurisdictional Area (acre or sq. ft.) | | Total Jurisdiction (acres) |
|---|---|---|---|
| **USACE** | ~~Riparian Area outside Wetland Area~~* | ~~54.33~~* | ~~101.13~~*<br>46.80 |
| | Wetland Area | 11.2 | |
| | Drainage Impacts<br>*Main channel*<br>*Braided channel* | 35.6<br>*6.7*<br>*28.9* | |
| | | | |
| **RWQCB** | ~~Riparian Area Outside Wetland Area~~*<br>~~*Mule Fat Thickets*~~*<br>~~*Riparian Woodland*~~* | ~~2,366,614.8 (sq. ft.)~~*<br>~~406,414.8 (sq. ft.)~~*<br>~~1,960,200 (sq. ft.)~~* | ~~4,405,222.8 (sq. ft.)~~*<br>2,038,608 (sq. ft.)<br>(46.80 ac) |
| | Wetland Area | 487,872 (sq. ft.) (11.2 ac) | |
| | Drainage Impacts<br>*Main channel*<br>*Braided channel* | 1,550,736 (sq. ft.) (35.6 ac)<br>291,852 (sq. ft.) (6.7 ac)<br>1,258,884 (sq. ft.) (28.9 ac) | |
| | | | |
| **CDFW** | Riparian Area Outside Wetland Area<br>*Mule Fat Thickets*<br>*Riparian Woodland* | 54.43<br>*9.33*<br>*45.0* | 101.13 |
| | Wetland Area | 11.2 | |
| | Drainage Impacts<br>*Main channel*<br>*Braided channel* | 35.6<br>*6.7*<br>*28.9* | |

*Riparian areas located outside of the OHWM are not considered jurisdictional by USACE or RWQCB (USACE 1987, USACE 2008, California Water Code 1996). The total impacts to USACE and RWQCB jurisdiction has been corrected.

As stated previously, the influx of sediment after the 2009 Station Fire and subsequent storms heavily affected the riparian habitats within CDFW jurisdictional areas. The disturbance caused by the influx of sediment not only buried riparian vegetation but it also allowed nonnative and invasive plant species to spread to areas within the reservoir where they weren't located prior to the sediment deposition. The changes in the vegetation between 2010 (Figure 3.6-1) and 2013 (Figure 3.6-2) illustrate the increase in the distribution of nonnatives and invasive plants and the resulting decrease in the acreage and fragmentation of the riparian habitats and Riversidean Alluvial Fan Sage Scrub.

The Proposed Project would result in the removal of riparian habitats and Riversidean Alluvial Fan Sage Scrub and alteration of the channel within CDFW jurisdiction, which would be considered a significant impact. To compensate for the loss of the riparian habitats and Riversidean Alluvial Fan Sage Scrub within the CDFW jurisdictional areas, resulting from the Proposed Project, the LACFCD would restore and enhance areas and remove exotic plant species from onsite and offsite areas supporting riparian habitats to achieve not less than a 1:1 ratio of replacement for a no net loss of the riparian habitats within CDFW jurisdiction (MM BIO-8). Restoration options will include creation of new riparian habitats or Riversidean Alluvial Fan Sage Scrub in areas where they do not currently exist, restoring disturbed riparian habitats or Riversidean Alluvial Fan Sage Scrub that may be damaged or have a high level of

nonnative or invasive species to undisturbed habitat, or restoring continuity of riparian habitats that may be fragmented by nonnative plant species or disturbed areas. The priority for determining mitigation site locations for unavoidable impacts would be onsite (for the Proposed Project and Alternatives), offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed (CDFW Comment Letter #171).

Prior to implementation of the Proposed Project, the LACFCD would obtain the necessary authorization from the CDFW for impacts to jurisdictional areas. As required by Section 1602, LACFCD would notify CDFW about the potential impacts of the Proposed Project on CDFW jurisdictional areas and wildlife prior to project implementation through the submittal of an application for a Lake or Streambed Alteration Agreement. The LACFCD would coordinate with CDFW regarding the locations of onsite and/or offsite mitigation sites. CDFW would determine the mitigation ratio required by the Section 1602 permit process, which may or may not be the same as the mitigation ratio determined to be adequate under CEQA. As required by the issuance of a CDFW Lake and Streambed Alteration Agreement, LACFCD would prepare a Habitat Restoration Plan that describes the following:

- types of habitats to be created, restored, or enhanced;
- methods for implementing the restoration activities;
- performance standards for determining success of the restoration sites;
- monitoring requirements and frequency;
- reporting requirements;
- long-term management and protection of the mitigation sites; and,
- funding of the implementation, long-term management, and protection of the mitigation sites.

LACFCD would conduct biological studies at potential mitigation site locations to ensure that the mitigation sites support conditions suitable for riparian habitat creation, restoration, and/or enhancement opportunities and would provide for wildlife movement preservation where the sites would be protected and managed.

As described above for Riparian Habitats, the success of projects that were required to create, restore, and/or enhance riparian habitats at a 1:1 mitigation ratio to compensate for impacts to riparian habitats and jurisdictional habitats has been documented in the comparative study conducted by researchers at UCLA and UCSF (Ambrose et al 2007). The success of permitted projects and the precedent set by the City of Riverside (described above under the heading for Riversidean Alluvial Fan Sage Scrub) and regulatory agencies for requiring a 1:1 mitigation ratio to compensate for impacts to riparian habitat, provides support that the 1:1 mitigation ratio required by MM BIO-7 and MM BIO-8 for the Proposed Project would result in the successful replacement of the same acreage of riparian habitats and CDFW jurisdictional areas that would be affected by the Proposed Project. Implementation of the specifications and management activities included in the Habitat Restoration Plan prepared by LACFCD for the Proposed Project and monitoring of the riparian habitat restoration and enhancement sites until they are successful by LACFCD would ensure the mitigation would fully offset the impacts of the Proposed Project.

The LACFCD will implement the measures necessary to achieve successful restoration and enhancement of riparian habitats and Riversidean Alluvial Fan Sage Scrub within CDFW jurisdictional areas. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of sensitive habitats, including riparian habitats and Riversidean Alluvial Fan Sage Scrub. The LACFCD will implement the

Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to CDFW jurisdiction at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, riparian habitats and Riversidean Alluvial Fan Sage Scrub can be successfully restored and enhanced. Successful restoration and enhancement of Riparian Woodland, Mule Fat Thickets, and Riversidean Alluvial Fan Sage Scrub and protection of these restored and enhanced habitats within CDFW jurisdiction would achieve not less than a 1:1 replacement, or no net loss of these habitats within CDFW jurisdiction. Therefore, implementation of Mitigation Measures MM BIO-7 and MM BIO-8 would reduce impacts to CDFW jurisdiction to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measures MM BIO-7 and BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

Mitigation Measures

**MM BIO – 6:** Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of this sensitive habitat. Measures to achieve not less than a 1:1 replacement, or no net loss, of Riversidean Alluvial Fan Sage Scrub shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreage of Riversidean Alluvial Fan Sage Scrub.
- Identify and map the selected mitigation ~~A~~areas where Riversidean Alluvial Fan Sage Scrub will be enhanced or restored ~~shall be mapped~~ using aerial photographs. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
- Select offsite reference sites where Riversidean Alluvial Fan Sage Scrub is the established plant community. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, and native plant species richness (number of different plant species).
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant (if applicable) and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,
    - Selection criteria of reference sites,
    - Performance standards of the mitigation sites,
    - Monitoring reports and annual reports schedule,
    - Mitigation long-term management plan, and
    - Funding description for implementation and long-term management.

- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites and to show that not less than a 1:1 replacement of sensitive habitats has been achieved.
- Quantitatively monitor the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of Riversidean Alluvial Fan Sage Scrub has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
    - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
    - Add soil amendments if problem soils may be inhibiting plant growth,
    - Replant if plant survival is low or to increase plant species cover or diversity,
    - Install different plant species for plant species which are not surviving, and
    - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.

**MM BIO – 7:** Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint to identify native city-protected trees that would ~~will~~ be removed or potentially affected by the Proposed Project, ~~and~~ native city-protected trees that can be avoided, and native city-protected trees that will require root zone protection. LACFCD would ~~will~~ replace native city-protected trees that cannot be avoided. The replacement is expected to be at a ~~up to~~ 1:1 ratio by canopy acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads. The acreage occupied by the canopies of the native city-protected trees to be removed will determine the appropriate level of tree replacement. LACFCD shall identify tree replacement areas that are no less than the acreage of the native city-protected tree canopies to be removed. Priority for tree replacement locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. The number of replacement trees installed by LACFCD will be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD shall monitor the survival of the replacement trees for 5 years and replace those that do not survive within the monitoring period, ensuring that not less than 1:1 ratio of replacement, or no net loss, has been achieved.

**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. Non-native, weedy habitats within the basin shall be utilized whenever

possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).
- Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
- Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,
    - Selection criteria of reference sites,
    - Performance standards of the mitigation sites,
    - Monitoring reports and annual reports schedule,
    - Mitigation long-term management plan, and
    - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:

  - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
  - Add soil amendments if problem soils may be inhibiting plant growth,
  - Replant if plant survival is low or to increase plant species cover or diversity,
  - Install different plant species for plant species which are not surviving, and
  - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.
- Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards.

Residual Impacts After Mitigation

Impacts to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or USFWS resulting from the Proposed Project and both management options would be reduced to a level below significance w~~W~~ith implementation of Mitigation Measures MM BIO-6~~7~~ through MM BIO-8~~, the Proposed Project under sediment removal and both management options will result in a less than significant impact to sensitive habitats.~~ because LACFCD would successfully restore and enhance riparian habitat and Riversidean Alluvial Fan Sage Scrub in areas that would fall under the jurisdiction of the CDFW. LACFCD would monitor the mitigation sites until they are successful, and would provide long-term maintenance and management of the mitigation sites. The result would be a no net loss of these vegetation communities and CDFW jurisdictional areas. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

**BIOLOGY-3** *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.*

Sediment Removal/Reservoir Management

At Devil's Gate Reservoir, the OHWM of the reservoir is considered ~~exists up to~~ the 1020 contour line. Wetland Waters of the U.S., as defined by USACE, exist~~s~~ within the OHWM area of Devil's Gate Reservoir. The drainage and braided channel areas within Devil's Gate Reservoir were not delineated as Wetland Waters of the U.S. but they are considered Non-Wetland Waters of the U.S., which are also jurisdictional. Federally protected wetlands include both Wetland Waters of the U.S. and Non-Wetland Waters of the U.S. and the USACE ~~All three agencies~~ has jurisdiction over ~~this wetland~~ federally protected wetlands within the OHWM in the Proposed Project site~~ where there will be permanent impacts~~. ~~USACE, CDFW and RWQCB have jurisdiction of the riparian habitat within the proposed project boundary, up to the HWM~~.

Impacts to areas considered to be federally protected wetlands as defined by Section 404 of the Clean Water Act, and that fall under the jurisdiction of the USACE, are listed ~~jurisdictional waters were calculated within the Proposed Project site.~~ in Table 3.6-45, above.~~, includes the jurisdictional acreages for USACE, RWQCB, and CDFW for waters and for vegetation impacts.~~ Approximately 46.8 acres of federally protected wetlands (11.2 acres of wetlands and 35.6 acres of jurisdictional areas associated with the main and braided channels), would be removed or disturbed during the sediment removal phase of the Proposed Project. Much of the vegetation located within the wetlands boundaries was either removed by the high storm flows or was buried by the influx of sediment into the reservoir immediately after large storms in 2010 (Section 3.6.2). Patches of Mule Fat Thickets and nonnative plants have become established on the deposited sediment in some areas within the wetlands boundaries (Figure 3.6-2).

Following the sediment removal phase for both Option 1 and Option 2 of the Proposed Project, storm flows would enter the reservoir and naturally reestablish jurisdictional braided channels through the area encompassed by the reservoir management area. For Option 2 of the Proposed Project, the reestablished jurisdictional channels in the area between the boundary of the reservoir management area (shown on Figure 3.6-5) and the upstream boundary of the Proposed Project site would not be disturbed following the completion of the initial sediment removal. Normal flood control operations under either Option 1 or Option 2 of the Proposed Project would potentially result in the reestablishment of wetlands in areas that are inundated for extended periods of time.

Impacts of the Proposed Project on areas considered to be federally-protected wetlands as defined by Section 404 of the Clean Water Act, and that fall under the jurisdiction of the USACE, ~~to jurisdictional waters found within these water features~~ would result in a significant impact requiring mitigation. ~~To minimize impacts due to loss of jurisdictional waters, Mitigation Measure MM BIO-8 has been provided.~~

A Section 404 permit would be required from the USACE prior to the implementation of the Proposed Project. The sediment removal activities proposed in Devil's Gate Reservoir would potentially qualify for a Nationwide Permit (NWP) 31, which covers Maintenance of Existing Flood Control Facilities, but the decision on the type of permit (General or Individual Permit) issued for impacts to the jurisdictional areas would be at the discretion of the USACE.

As required by Section 404, the LACFCD would submit a permit application to notify the USACE about the potential impacts of the Proposed Project on federally-protected wetlands prior to project implementation. The LACFCD and USACE would coordinate together regarding the locations of the onsite and offsite mitigation areas. LACFCD would conduct studies at selected mitigation site locations, including biological surveys, jurisdictional delineations, and hydrology studies, to ensure that the mitigation sites would support the suitable conditions for wetlands establishment, reestablishment, rehabilitation, and/or enhancement. The USACE would determine the mitigation ratio and the amount of compensatory mitigation required to mitigate under Section 404 of the Clean Water Act, which may or may not be the same as the mitigation ratio determined to be adequate under CEQA. The priority for determining mitigation site locations for unavoidable impacts would be onsite (for the Proposed Project and Alternatives), offsite within the Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. Compensatory mitigation will include:

- establishment in areas where federally protected wetlands do not currently exist;
- reestablishment in areas where federally protected wetlands once existed but may have since been removed or disturbed;

- rehabilitation in areas where the functions of federally protected wetlands have been diminished; and,
- enhancement of existing federally protected wetlands areas where nonnative and invasive plants occur.

As required by the 404 Permit application, the LACFCD would prepare a Habitat Restoration Plan or Habitat Mitigation and Monitoring Plan (USACE 2015) that would include the information related to the methods for implementing the restoration activities at the mitigation sites, establishing performance standards, conducting monitoring (quantitative, qualitative, and functional) and maintenance, identifying adaptive management measures, and preparing annual reports. The plans would also describe the long-term management and protection of the mitigation sites as well as the funding necessary to cover the implementation and long-term management.

As described above under **BIOLOGY-2**, the success of projects that were required to create, restore, and/or enhance federally protected wetlands at a 1:1 mitigation ratio to compensate for impacts to jurisdictional habitats has been documented in the comparative study conducted by researchers at UCLA and UCSF (Ambrose et al 2007). The success of permitted projects and the precedent set by the City of Riverside (described above for Riversidean Alluvial Fan Sage Scrub) and regulatory agencies for requiring a 1:1 mitigation ratio to compensate for impacts to riparian habitat and jurisdictional habitats, provides support that the 1:1 mitigation ratio required by MM BIO-8 for the Proposed Project would result in the successful replacement of the same acreage of federally protected wetlands that would be affected by the Proposed Project. Implementation of the specifications and management activities included in the Habitat Mitigation and Monitoring Plan prepared by LACFCD for the Proposed Project and monitoring of the mitigation sites until they are successful by LACFCD would ensure the mitigation would fully offset the impacts of the Proposed Project.

Implementation of Mitigation Measure MM BIO-8 would reduce impacts to federally protected wetlands and other USACE jurisdictional areas to a level below significance under CEQA and would result in a no net loss of federally protected wetlands.

The LACFCD will implement successful establishment, reestablishment, rehabilitation, and enhancement of 46.8 acres of federally protected wetlands. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Mitigation and Monitoring Plan (HMMP) that will outline the means and methods of successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands. The LACFCD will implement the HMMP, and will monitor and apply adaptive management as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to federally-protected wetlands at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented by other agencies, wetlands can be successfully established, reestablished, rehabilitated, and enhanced. Successful establishment, reestablishment, rehabilitation, and enhancement of areas that fall under USACE jurisdiction would achieve not less than 1:1 replacement, or no net loss, of federally protected wetlands. Therefore, implementation of Mitigation Measure MM-BIO-8 would reduce impacts to federally protected wetlands to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

Mitigation Measures

See Mitigation Measure MM BIO-8.

Residual Impacts After Mitigation

~~As noted in Mitigation Measure MM BIO-8, wetlands and drainages under the jurisdiction of CDFW, USACE, and RWQCB will be restored and/or enhanced on the Proposed Project site. With implementation of these mitigation measures, impacts to riparian habitats will be reduced to a level below significance.~~

Impacts to federally protected wetlands resulting from the Proposed Project and both management options would be reduced to a level below significance with implementation of Mitigation Measure MM BIO-8 because LACFCD would successfully establish, reestablish, rehabilitate, and enhance federally protected wetlands, would monitor the mitigation sites until they achieve the established performance standards, and would provide long-term management and protection of the mitigation sites. The result would be a no net loss of acreage or functions of federally protected wetlands. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

**BIOLOGY-4** *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.*

Sediment Removal/Reservoir Management

The Proposed Project area is predominantly open for wildlife movement and habitat connectivity. Implementation of the Proposed Project would remove vegetation within the Proposed Project site that provides habitat where wildlife species may seek cover or foraging opportunities while moving through during migration or as they travel to or from different parts of their territories. Removal of the vegetation would also eliminate habitat that may be used by wildlife for nursery sites. The vegetation located outside of the boundary of the Proposed Project would not be affected and would continue to provide cover and foraging opportunities and nursery sites for wildlife as they move through the area. Sediment removal activities ~~will~~ would not be continuous, as excavation is expected to occur only during ~~in~~ the drier months (April to December, excluding holidays). In addition, sediment removal activities would not completely block the Proposed Project site from surrounding habitat~~,~~ and, because the activities would only occur ~~only~~ during the day, ~~and~~ they would not interfere with nighttime wildlife activity. Although some wildlife may be temporarily displaced from areas where equipment is operating during the construction associated with the initial sediment removal and during reservoir management, wildlife would not be physically prevented from moving around and into the basin area. After the sediment removal phase is completed and after the annual reservoir management activities are completed, equipment will no longer be operating and wildlife would be able to travel unimpeded through the Proposed Project site. With the Proposed Project, Option 2, the LACFCD would restore native riparian habitat and Riversidean Alluvial Fan Sage Scrub in the 29-acre area located between the boundary of the Reservoir Management Area and the upstream boundary of the Proposed Project site (see the descriptions above in BIOLOGY-2). LACFCD would implement habitat restoration and habitat enhancement at onsite and offsite locations to create additional cover, foraging, and nursery sites for wildlife as they move through during migration or as they travel to and from parts of their territories. The priority for determining mitigation site locations for unavoidable impacts would be onsite (for the Proposed Project and Alternatives), offsite within the Arroyo Seco subwatershed, and offsite within the

greater Los Angeles River watershed. Sediment removal and reservoir management activities would remove vegetation used for cover, foraging, and nursery sites and interfere temporarily with the movement of native resident or migratory wildlife species, resulting in a significant impact. ~~Reduction in~~

~~sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a significant impact.~~ To minimize impacts to less than significant, Mitigation Measures MM BIO-1 through MM BIO-8 ha~~s~~ve been provided.

Mitigation Measures

See Mitigation Measures MM BIO-1 through MM BIO-8.

Residual Impacts After Mitigation

Impacts to movement of native resident and migratory wildlife species, wildlife corridors, and use of the habitat for wildlife nursery sites resulting from the Proposed Project and both management options would be reduced to a level below significance w~~W~~ith implementation of Mitigation Measures MM BIO-1 through MM BIO-8~~, impacts to use of the habitat for wildlife nursery sites will be reduced to a level below significance.~~ because LACFCD would avoid working during nighttime hours, would provide protection of nesting sites during construction, would restore and enhance riparian habitat and Riversidean Alluvial Fan Sage Scrub, would monitor the mitigation sites until they are successful, and would provide long-term maintenance and management of the mitigation sites. The result would be a no net loss of riparian habitat and Riversidean Alluvial Fan Sage Scrub that can be used for wildlife movement and wildlife nursery sites. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

**BIOLOGY-5** *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

Sediment Removal/Reservoir Management

*City Trees and Trees Protection Ordinance – City of Pasadena*

Implementation of the Proposed Project would impact trees protected by the City of Pasadena City Trees and Tree Protection Ordinance. Removal of sediment and construction of the access roads into the Proposed Project site may impact oak trees and other native and nonnative trees protected by the City Trees and Tree Protection Ordinance. However, the Proposed Project would not be subject to the provisions of the Pasadena City Trees and Tree Protection Ordinance because the LACFCD was created by State legislation to implement State-designated objectives of flood control and water conservation within the boundaries of the LACFCD. When implementing State-designated objectives, the LACFCD is not subject to local ordinances like the Pasadena City Trees and Tree Protection Ordinance.

Even though the LACFCD is not subject to the Pasadena City Trees and Tree Protection Ordinance, implementation of ~~T~~the Proposed Project would remove native trees from the Proposed Project site that are of local concern and this would potentially be considered a significant impact. Implementation of Mitigation Measure MM BIO-7 ~~will~~ would identify native city-protected trees that ~~will~~ would be ~~removed or~~ potentially affected~~,~~ and need root zone protection or native city-protected trees that would be removed. The acreage occupied by the canopies of the identified trees to be removed would determine the appropriate level of tree replacement.~~, and protection of the root zones of oak trees.~~ LACFCD would identify onsite tree replacement areas that are of the same size as the acreage occupied by the canopies of the affected trees. The number of replacement trees installed by LACFCD would be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD would monitor the survival of the trees for five years and would

replace those that do not survive during the monitoring period, ensuring that a 1:1 ratio of replacement by acreage is met. Implementation of this mitigation measure would reduce impacts to city-protected trees to a level below significance because more trees would be planted than would be lost from implementation of the Proposed Project. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-7 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

Mitigation Measures

See Mitigation Measure MM BIO-7.

Residual Impacts After Mitigation

Impacts of the Proposed Project and both management Options 1 and 2 on local policies or ordinances protecting biological resources, such as the City of Pasadena City Trees and Tree Protection Ordinance, would be reduced to a level below significance ~~W~~with implementation of Mitigation Measure MM BIO-7 because the LACFCD would install enough trees to cover the same size area occupied by the canopies of the affected trees resulting in more trees planted than removed, and LACFCD would protect the root zones of oak trees. Mitigation Measure BIO-7 would achieve not less than 1:1 replacement, or no net loss, of native city-protected trees and no net loss of the acreage occupied by those trees.~~, the Proposed Project would result in a less than significant impact to city-protected trees.~~ These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

**BIOLOGY-6** *Cumulative Impacts*

No significant impacts to biological resources are expected with construction of the NASA JPL On-Site Parking Structure. Therefore, less than significant cumulative impacts to biological resources would occur.

Impacts to biological resources associated with the Hahamongna Watershed Park MBMU Project are in the process of being evaluated, and potential impacts are not known at this time. Impacts to biological resources associated with the Arroyo Seco Canyon Project are also not known at this time. It is possible that either of these projects could result in impacts to special status species, riparian habitat and other sensitive natural communities, the movement of native resident or migratory wildlife species, and city-protected trees, resulting in significant cumulative impacts. After implementation of Mitigation Measures MM BIO-1 through BIO-8, the Proposed Project would have a less-than-significant impact to biological resources. Impacts to biological resources from the Hahamongna Watershed Park MBMU Project and the Arroyo Seco Canyon Project would be evaluated through project-specific CEQA documents, and if found significant, would be required to implement all feasible mitigation measures. Therefore, significant cumulative impacts to biological resources would not occur.

Impacts to biological resources associated with ~~and~~ the Devil's Gate Water Conservation Project cannot be quantified ~~are also not known~~ at this time because the final design for this project has not been developed or approved. However, LACFCD's concept for the Devil's Gate Water Conservation Project includes installing a pump station and intake structure at Devil's Gate Dam and potentially conducting an outlet structure in Eaton Wash (See Figures 3.6-6 through 3.6-8). Approximately five miles of pipeline would be installed in road rights-of-way through the City of Pasadena and County unincorporated areas. Figure 3.6-6 shows the potential routes of the pipeline for three conceptual alignments for the Water

Conservation Project. The concept includes installing a pump station on the face of the dam (Figure 3.6-7) or an intake structure at the existing outlet tunnel (Figure 3.6-8). The conceptual pipeline would extend from the pump to a valve box that would be constructed in the disturbed area adjacent to the access road near the west side of the top of the dam. Construction of the pump station, pipeline, and valve vault would not result in impacts to biological resources because the areas where impacts would occur are disturbed and they do not support any vegetation. Installing the pipeline in the rights-of-way along the edges of existing roads would minimize impacts to biological resources, special status species, riparian habitat and other sensitive natural communities, movement of native resident or migratory wildlife species, and city-protected trees. Depending on the resources that would be disturbed by the final design, ~~I~~it is possible that ~~either of these projects~~ the Devil's Gate Water Conservation Project combined with the Proposed Project could potentially result in cumulatively considerable ~~significant cumulative~~ impacts to special status species, riparian habitat and other sensitive natural communities, the movement of native resident or migratory wildlife species, and city-protected trees.~~, resulting in significant cumulative impacts.~~ The actual impacts of the Devil's Gate Water Conservation Project on biological resources would be evaluated in a CEQA document once the final design has been selected and that project moves forward. Project specific mitigation measures would be developed for that project. However, should the Water Conservation Project go forward, Mitigation Measures BIO-1 through BIO-8 would be implemented as part of the project. Implementation of MMs BIO-1 through BIO-8 and any other project specific mitigation measures developed in the CEQA document prepared for the Devil's Gate Water Conservation Project would reduce the impacts on biological resources resulting from the Water Conservation Project to a level of less than significant. Implementation of the mitigation measures would also reduce the contribution from the Proposed Project and the Water Conservation Project to cumulative impacts on biological resources to less than cumulatively considerable and therefore, less than significant.

Mitigation Measure

See Mitigation Measures MM BIO-1 through MM BIO-8.

Residual Impacts After Mitigation

Implementation of Mitigation Measures MM BIO-1 through MM BIO-8 for both the Proposed Project and the Devil's Gate Water Conservation Project would reduce the Proposed Project's contribution to cumulative impacts less than cumulatively considerable and therefore to a level below significance. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

**Figure 3.6-6. Water Conservation Project Alignment Overview**

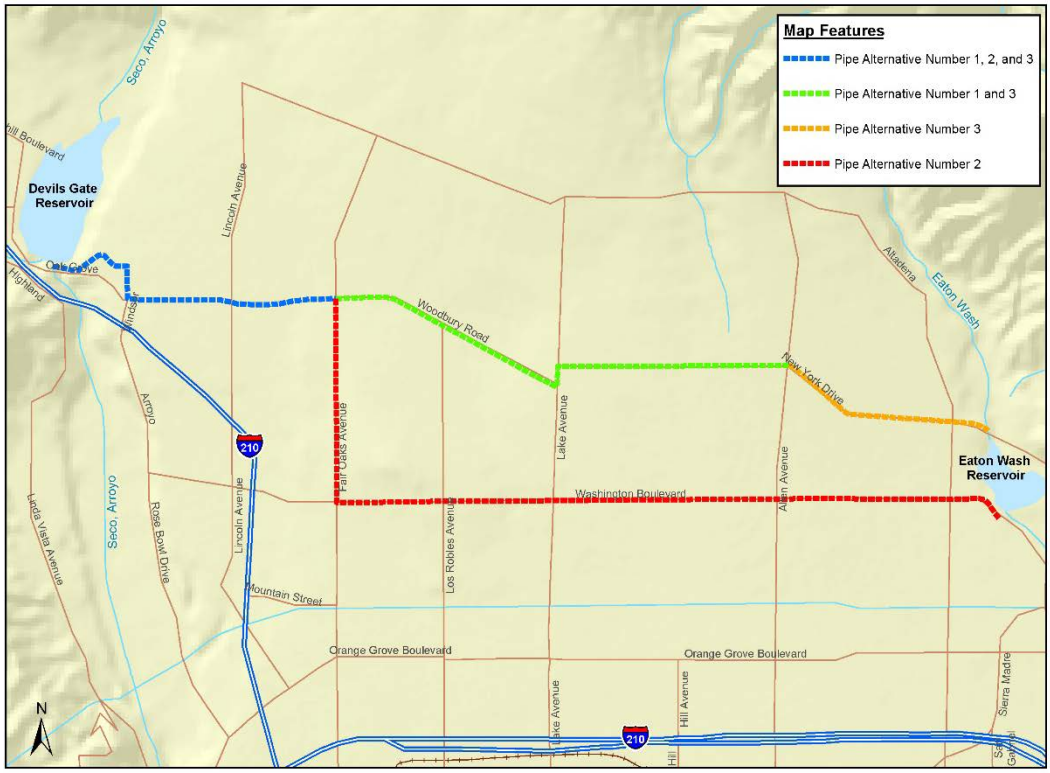
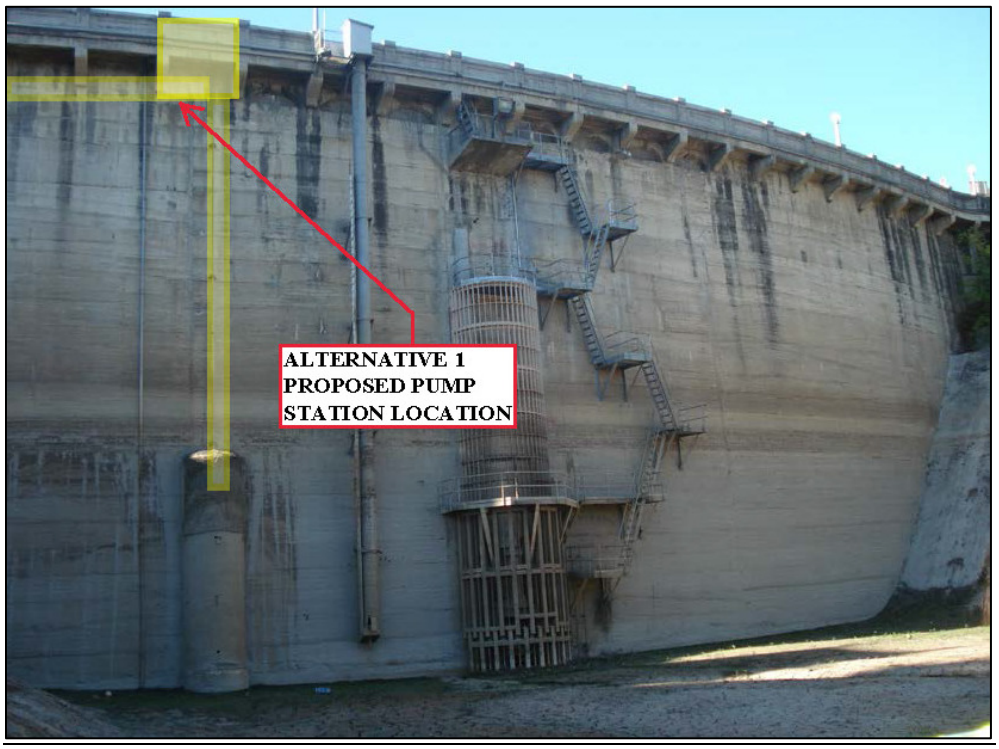
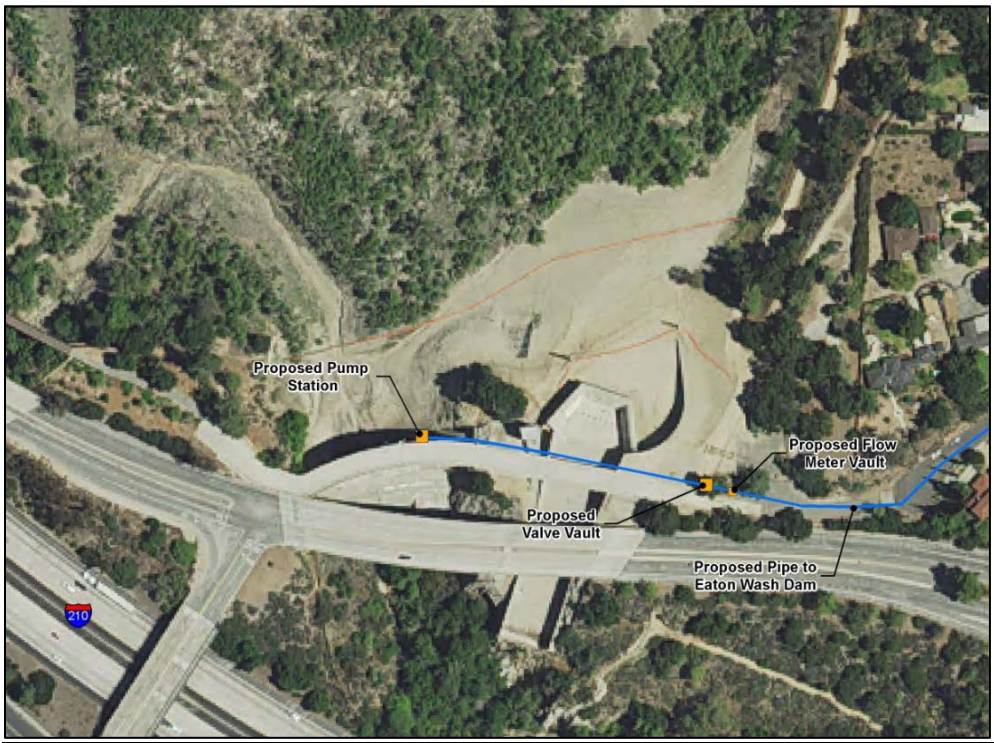


**Figure 3.6-7. Water Conservation Project Pump Station Alternative 1**

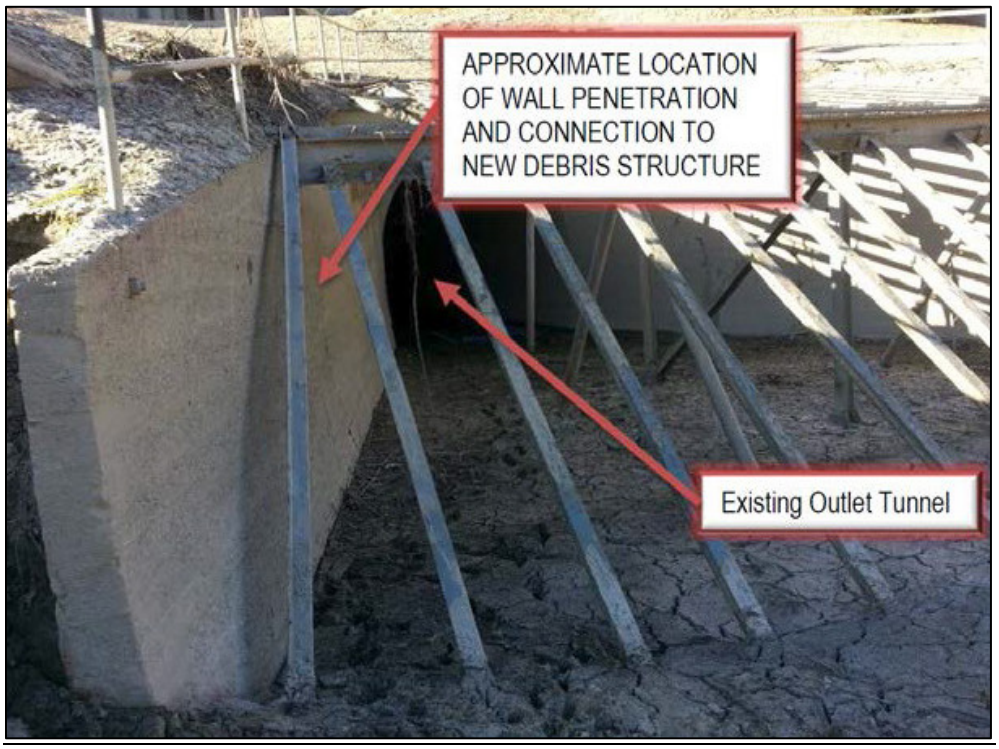



**Pump Station Alternative 1 Location (Section View)**




**Pump Station Alternative 1 Profile**

**Figure 3.6-8. Water Conservation Project Pump Station Alternative 2**




**Pump Station Alternative 2 Pipe Inlet Location**


**Pump Station Alternative 2 Profile**

# Section 4.6.3 ALTERNATIVE 3, CONFIGURATION D –

# Impacts Analysis and Comparison to Proposed Project

# Page 431

**AIR QUALITY**

**AIR QUALITY- 1** *Conflict with or obstruct implementation of the applicable air quality plan.*

*Sediment Removal/Reservoir Management*

Typically, assessments for air quality plan consistency use four criteria for determining project consistency with the current AQMP. The first and second criteria are from the SCAQMD. According to the SCAQMD, two key criterion of AQMP consistency are: (1) whether the project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and (2) whether the project will exceed the assumptions in the AQMP based on the year of project build-out and phase (SCAQMD 2006). The third criterion is compliance with the control measures in the AQMP. The fourth criterion is compliance with the SCAQMD regional thresholds.

As with the Proposed Project (see Section 3.5.6), Alternative 3, Configuration D will be consistent with the second through fourth criteria but will not be consistent with the first criterion. This is due to emissions of $NO_X$ exceeding the Daily Regional Threshold during sediment removal, resulting in a potentially significant impact. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of Alternative 3, Configuration D's combined $NO_X$ emissions during sediment removal. Therefore, impacts during sediment removal will be less than significant. This impact will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

As with the Proposed Project, reservoir management for Alternative 3, Configuration D will not exceed any standard and will result in less than significant impacts.

*Mitigation Measures*

**MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use only sediment removal dump trucks that meet EPA's emission standards for Model Year ~~2007~~2010 or later.

**MM AQ-2**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment.

*Residual Impacts After Mitigation*

Implementation of these mitigations would reduce the combined $NO_X$ emissions of Alternative 3, Configuration D during the sediment removal phase to a level of less than significant. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

Reservoir management activities will not violate an air quality standard or contribute substantially to an existing or projected air quality violation; therefore, during reservoir management Alternative 3, Configuration D will be consistent with the first indicator. No significant impact would occur.

# Section 4.6.3 ALTERNATIVE 3, CONFIGURATION D –

# Impacts Analysis and Comparison to Proposed Project

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- Allowing the tree to remain in place to 24 to 48 hours until inspected by the qualified biologist for presence or absence of roosting bats

- The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD.

*Residual Impacts after Mitigation*

Alternative 3, Configuration D will result in a less than significant impact on candidate, sensitive, or special status species.

*Comparison to Proposed Project and Other Alternatives*

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to candidate, sensitive, or special status species due to the reduction in sediment removal and reservoir management areas and associated activities.

Due to the reduction in sediment removal and reservoir management areas and associated activities, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. Alternative 3, Configuration D will also potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal and impacts to downstream habitats associated with removal activities.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as habitat in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

**BIOLOGY-2** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

*Sediment Removal/Reservoir Management*

Alternative 3, Configuration D, Option 1 and Alternative 3 Configuration D, Option 2 will impact approximately 0.4 acre of Riversidean Alluvial Fan Sage Scrub within the Proposed Project site. Impacts to Riversidean Alluvial Fan Sage Scrub will result in a potentially significant impact requiring mitigation; however, disturbance of this community will be reduced by approximately 0.7 acres (64 percent) as compared to the Proposed Project (Table 4.6-5).~~To minimize impacts due to~~ To compensate for the loss of Riversidean Alluvial Fan Sage Scrub, the LACFCD would restore and enhance Riversidean Alluvial Fan Sage Scrub habitat either onsite or offisite to achieve not less than a 1:1 replacement, or no net loss, of Riversdean Alluvial Fan Sage Scrub ~~Mitigation Measure~~ (MM BIO-6) ~~has been provided. Removing the sediment will benefit the alluvial fan sage scrub since the habitat is currently buried under sediment and therefore considered poor quality. With implementation of this mitigation measure, impacts to Riversidean Alluvial Fan Sage Scrub will be reduced to a level below significance.~~

Alternative 3, Configuration D, Option 1 will impact approximately 2.1 acres of Coastal Sage Scrub and Alternative 3 Configuration D, Option 2 will impact approximately 0.9 acre of Coastal Sage Scrub within the Proposed Project site. Impacts to Coastal Sage Scrub will result in a potentially significant impact requiring mitigation. However, disturbance of this community with Option 1 will be reduced by approximately 1.0 acre (32 percent) and with Option 2, disturbance to this community will be reduced by approximately 2.2 acres (71 percent) as compared to the Proposed Project (Table 4.6-5).To compensate for the loss of Coastal Sage Scrub,

the LACFCD would restore and enhance Coastal Sage Scrub habitat either onsite or offsite to achieve not less than a 1:1 replacement, or no net loss, of Coastal Sage Scrub (MM BIO-8).

Alternative 3, Configuration D, Option 1 will impact approximately 35.0 acres of riparian habitat (28.9 acres of Riparian Woodland and 6.1 acres of Mule Fat Thickets) ~~within the Proposed Project site~~, while Alternative 3, Configuration D, Option 2 will impact approximately 32.6 acres of riparian habitat (28.9 acres of Riparian Woodland and 3.7 acres of Mule Fat Thickets) (Table 4.6-5). Riparian Woodland and Mule Fat Thickets are rare plant communities that provide nesting habitat for riparian species. Impacts to these habitats will result in a potentially significant impact; however, disturbance of Riparian Woodland and

Mule Fat Thickets under Option 1 will be reduced by approximately 22.5 acres (44 percent) and 5.0 acres (54 percent), respectively, as compared to the Proposed Project. In comparison, disturbance of Riparian Woodland and Mule Fat Thickets under Alternative 3, Configuration D, Option 2 will be reduced by approximately 22.5 acres (44 percent) and 7.4 acres (67 percent), respectively as compared to the Proposed Project. To compensate for ~~minimize impacts due to~~ the loss of riparian habitats (Riparian Woodland and Mule Fat Thickets), the LACFCD would restore and enhance riparian habitats either onsite or offsite to achieve not less than a 1:1 replacement, or no net loss, of riparian habitats (Riparian Woodland and Mule Fat Thickets) ~~Mitigation Measures~~ (MM BIO-7 and MM BIO-8) ~~have been provided~~. ~~With implementation of this mitigation measure, impacts to Riparian Woodland and Mule Fat Thickets will be reduced to a level below significance.~~

Figure 4.6-12: Alternative 3, Configuration D, Option 1 Impacted Water Features and Figure 4.6-13: Alternative 3, Configuration D, Option 2 show the boundaries of the areas and water features that will be impacted. CDFW jurisdiction includes the water features shown on these maps plus the habitat areas located outside of these features and within the boundaries of the alternatives. Alternative 3, Configuration D, Option 1 would impact approximately 75.5 acres of CDFW jurisdiction while Option 2 would impact approximately 70.8 acres of CDFW jurisdiction. Compared to the Proposed Project, Alternative 3, Configuration D, Option 1 and Alternative 3, Configuration D, Option 2 will reduce impacts to ~~these~~ CDFW jurisdiction, including the water features, by approximately ~~19~~ 36 percent and 40 percent, respectively. To compensate for the ~~minimize~~ impacts to habitats within CDFW jurisdiction found within the~~se water features~~ boundaries of the two options for Alternative 3, Configuration D, the LACFCD would restore and enhance riparian habitats and other sensitive natural communities within onsite or offsite CDFW jurisdictional areas to achieve not less than a 1:1 replacement, or no net loss, of these habitats within CDFW jurisdictional areas ~~Mitigation Measure~~ (MM BIO-8).~~has been provided~~. ~~With implementation of this mitigation measure, impacts will be reduced to a level below significance~~

As stated above in the discussion of impacts from Alternative 3, Configuration D (Options 1 and 2) to Riversidean Alluvial Fan Sage Scrub, riparian habitats, sensitive natural communities, and these habitats within CDFW jurisdictional areas, the LACFCD will implement the measures necessary to achieve successful restoration and enhancement of these plant communities within areas under the jurisdiction of CDFW. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of sensitive habitats, including riparian habitats (Riparian Woodland and Mule Fat Thickets), Riversidean Alluvial Fan Sage Scrub, and Coastal Sage Scrub. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to riparian habitats, sensitive natural communities, and habitats within CDFW jurisdictional areas at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, riparian habitats (Riparian Woodland and Mule Fat Thickets), Riversidean Alluvial Fan Sage Scrub, and Coastal Sage Scrub can be successfully restored and enhanced. Successful restoration and enhancement of riparian habitats, Riversidean Alluvial Fan Sage Scrub, and Coastal Sage Scrub in areas that fall under CDFW jurisdiction would achieve not less than a 1:1 replacement, or no net loss, of these plant communities and CDFW jurisdiction. Therefore, implementation of Mitigation Measures MM-BIO-6, MM BIO-7, and MM BIO-8 would reduce impacts to riparian habitats, Riversidean Alluvial Fan Sage Scrub, and Coastal Sage Scrub within CDFW jurisdiction to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measures BIO-6, MM BIO-7, and MM BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a

higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Mitigation Measures*

**MM BIO – 6:** Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of this sensitive habitat. Measures to achieve not less than a 1:1 replacement, or no net loss, of Riversidean Alluvial Fan Sage Scrub shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreage of Riversidean Alluvial Fan Sage Scrub.
- Identify and map the selected mitigation ~~A~~areas where Riversidean Alluvial Fan Sage Scrub will be enhanced or restored ~~shall be mapped~~ using aerial photographs. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
- Select offsite reference sites where Riversidean Alluvial Fan Sage Scrub is the established plant community. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, and native plant species richness (number of different plant species).
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant (if applicable) and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,
    - Selection criteria of reference sites,
    - Performance standards of the mitigation sites,
    - Monitoring reports and annual reports schedule,
    - Mitigation long-term management plan, and
    - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites and to show that not less than a 1:1 replacement of sensitive habitats has been achieved.
- Quantitatively monitor the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of Riversidean Alluvial Fan Sage Scrub has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
    - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,

  - Add soil amendments if problem soils may be inhibiting plant growth,
  - Replant if plant survival is low or to increase plant species cover or diversity,
  - Install different plant species for plant species which are not surviving, and
  - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.

**MM BIO – 7:** Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint to identify native city-protected trees that would ~~will~~ be removed or potentially affected by the Proposed Project, ~~and~~ native city-protected trees that can be avoided, and native city-protected trees that will require root zone protection. LACFCD would ~~will~~ replace native city-protected trees that cannot be avoided. The replacement is expected to be at a ~~up to~~ 1:1 ratio by canopy acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads. The acreage occupied by the canopies of the native city-protected trees to be removed will determine the appropriate level of tree replacement. LACFCD shall identify tree replacement areas that are no less than the acreage of the native city-protected tree canopies to be removed. Priority for tree replacement locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. The number of replacement trees installed by LACFCD will be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD shall monitor the survival of the replacement trees for 5 years and replace those that do not survive within the monitoring period, ensuring that not less than 1:1 ratio of replacement, or no net loss, has been achieved.

**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).
- Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for

mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.

- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,
    - Selection criteria of reference sites,
    - Performance standards of the mitigation sites,
    - Monitoring reports and annual reports schedule,
    - Mitigation long-term management plan, and
    - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
    - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
    - Add soil amendments if problem soils may be inhibiting plant growth,
    - Replant if plant survival is low or to increase plant species cover or diversity,
    - Install different plant species if certain plant species are not surviving, and
    - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.

- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.

- Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards.

*Residual Impacts after Mitigation*

Impacts to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service resulting from the ~~Under~~ sediment removal and reservoir maintenance, Alternative 3, Configuration D would be reduced to a level below significance with implementation of Mitigation Measures MM BIO-6 through MM BIO-8 ~~will result in a less than significant impact on riparian habitat and other sensitive natural communities.~~because LACFCD would successfully restore and enhance riparian habitats (Riparian Woodland and Mule Fat Thickets), Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in areas that would fall under the jurisdiction of the CDFW. In addition, LACFCD would quantitatively monitor the mitigation sites and apply adaptive management measures, as applicable, until the established performance standards are met. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to riparian habitats (Riparian Woodland and Mule Fat Thickets), Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in areas that would fall under the jurisdiction of the CDFW at alternative sites and will monitor those sites until the established performance standards are achieved. LACFCD would also provide long-term management and protection of the mitigation sites to achieve not less than a 1:1 replacement, or no net loss, of these sensitive habitats and CDFW jurisdictional areas. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

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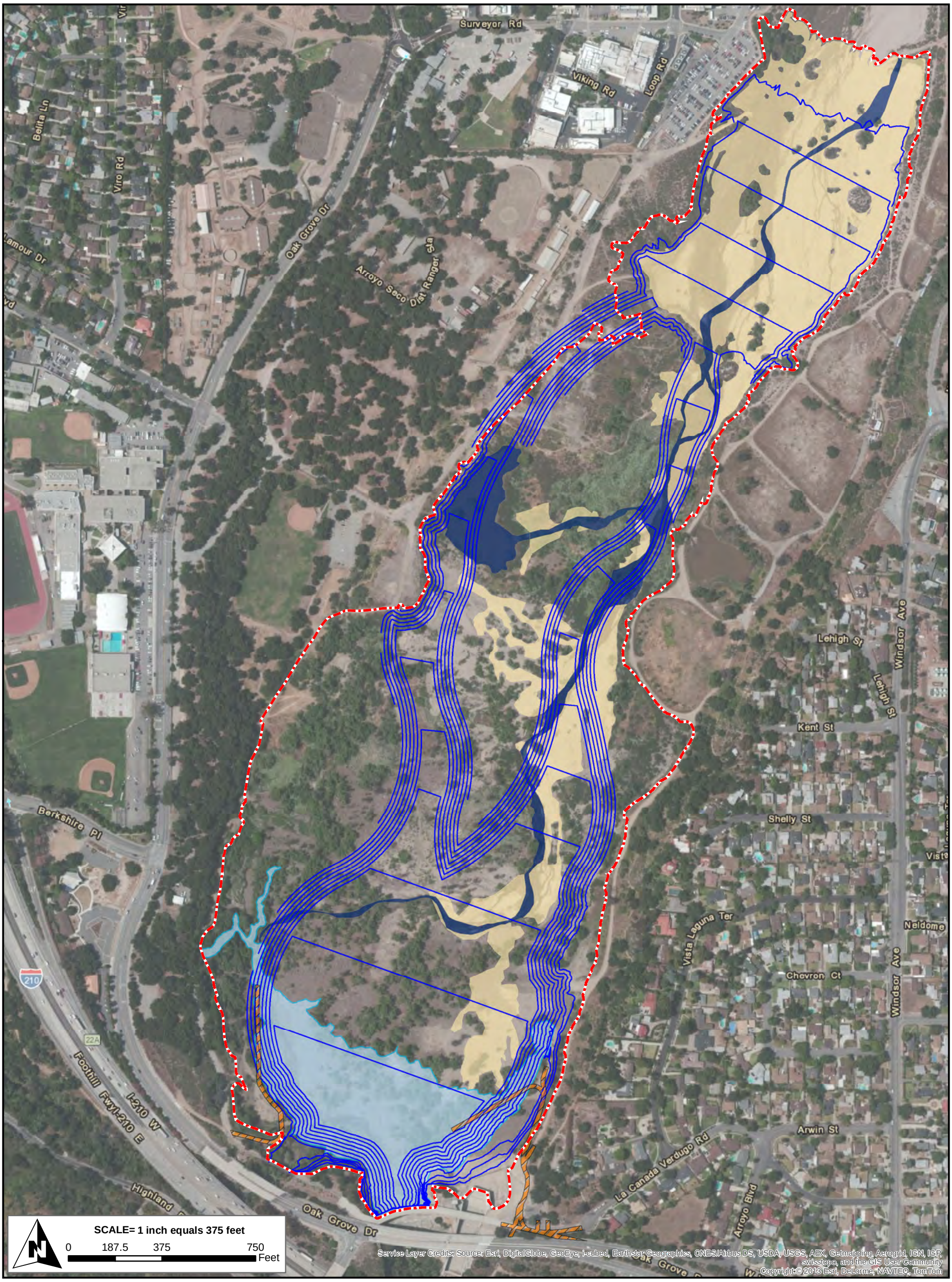


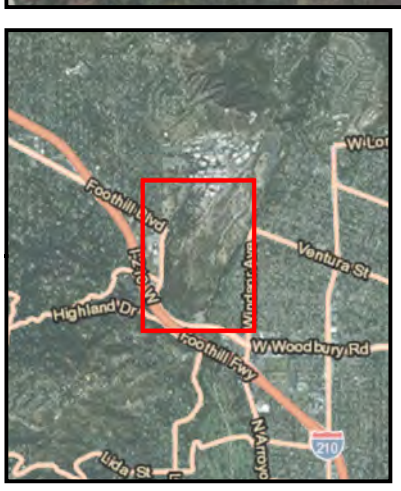


Proposed Project Boundary

Access Road

Sediment Removal Excavation Limit

**Waters (Impacted Acres)**

Braided Channel (22.2 acres)

Drainage (4.8 acres)

Wetland Area (10.8 acres)

# Figure 4.6-12
## Impacted Water Features Map

### Alternative 3 - Configuration D, Option 1

Version Date: 8/20/2014

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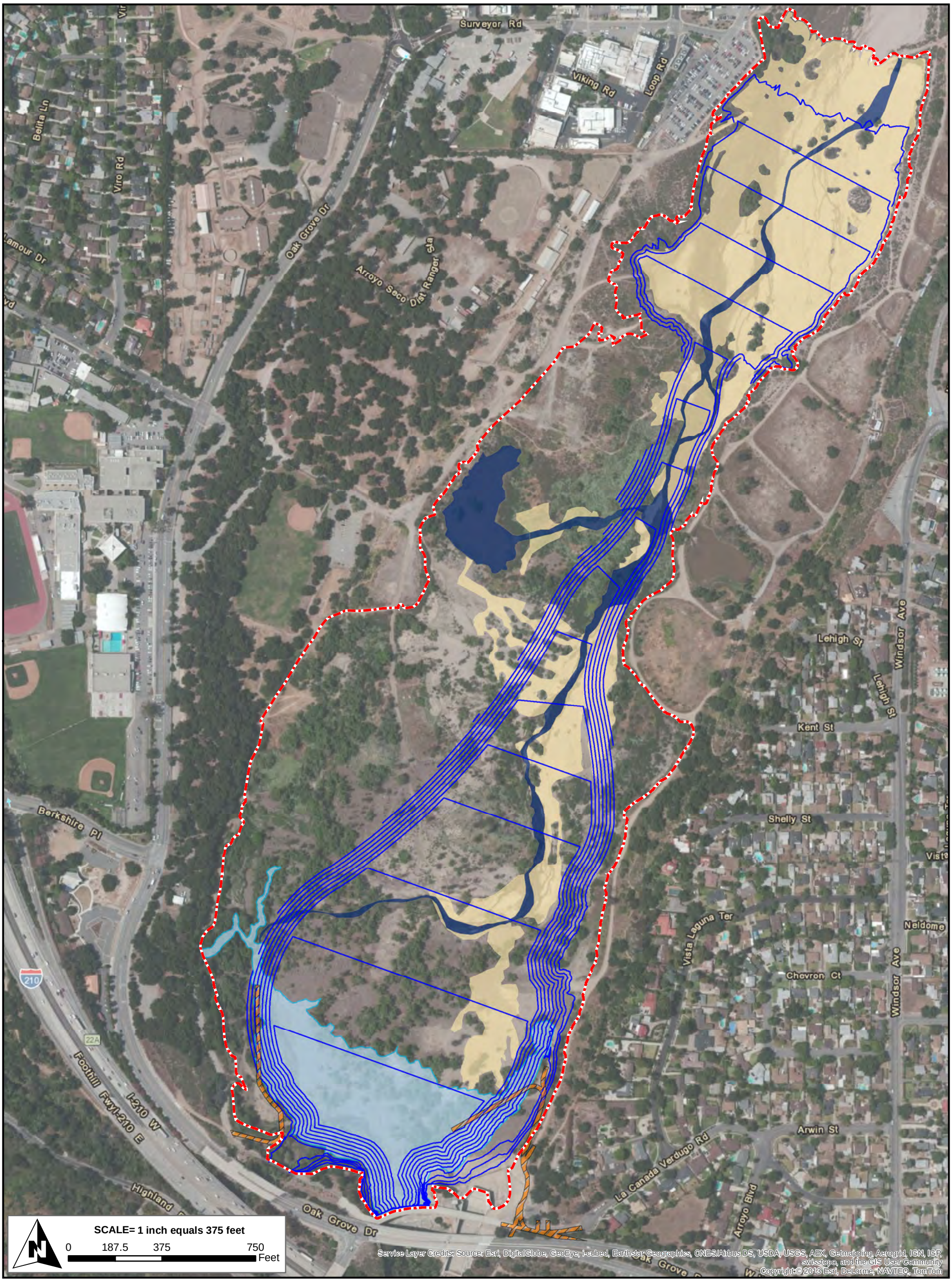
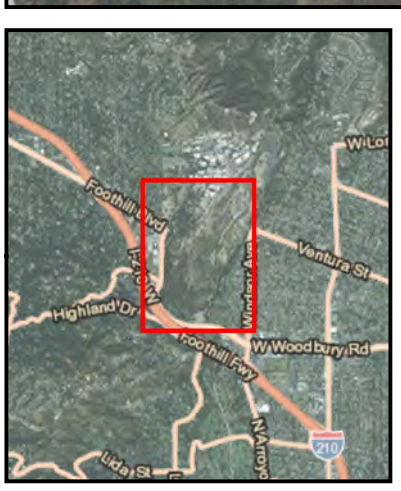
\\cgi-gisdata01\GIS_DATA\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 4.6-12 Alternative 3, Configuration D1 Impacted Water Features.mxd




Proposed Project Boundary

Access Road

Sediment Removal Excavation Limit

**Waters (Impacted Acres)**

Braided Channel (23.2 acres)

Drainage (3.8 acres)

Wetland Area (10.8 acres)

# Figure 4.6-13
## Impacted Water Features Map

### Alternative 3 - Configuration D, Option 2

Version Date: 8/20/2014

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\\cgi-gisdata01\GIS_DATA\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 4.6-13 Alternative 3, Configuration D2 Impacted Water Features.mxd

*Comparison to Proposed Project and Other Alternatives*

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to riparian habitat, ~~and~~ other sensitive natural communities, and CDFW jurisdictional areas due to the reduction in sediment removal and reservoir management areas and associated activities and increased opportunities for restoration and/or enhancement.

Due to the reduction in sediment removal and reservoir management areas and associated activities and increased opportunities for restoration and/or enhancement, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. Alternative 3, Configuration D will also potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal and impacts to downstream habitats associated with removal activities.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as habitat in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

**BIOLOGY-3** *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.*

*Sediment Removal/Reservoir Management*

Figures 4.6-12 and 4.6-13, above, show the water features that will be impacted by this alternative. Compared to the Proposed Project, Alternative 3, Configuration D will reduce impacts to these water features by approximately 19 percent. ~~To minimize impacts to jurisdictional waters found within these water features,~~As stated for the Proposed Project, the LACFCD will implement successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands to compensate for impacts associated with Alternative 3, Configuration D. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Mitigation and Monitoring Plan (HMMP) that will outline the means and methods of successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands. The LACFCD will implement the HMMP and will monitor and apply adaptive management, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to federally-protected wetlands at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented by other agencies, federally protected wetlands can be successfully established, reestablished, rehabilitated, and enhanced. Successful establishment, reestablishment, rehabilitation, and enhancement of federally-protected wetlands would achieve not less than 1:1 replacement, or no net loss, of federally protected wetlands. Therefore, implementation of Mitigation Measure MM BIO-8 ~~has been provided. With implementation of this mitigation measure, impacts will be reduced~~ would reduce impacts to federally protected wetlands to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Mitigation Measures*

See Mitigation Measure MM BIO-8 above.

*Residual Impacts After Mitigation*

As noted in MM BIO-8, wetlands and drainages under the jurisdiction of CDFW, USACE, and RWQCB will be restored and/or enhanced in onsite and potentially offsite areas~~on the Proposed Project site~~. ~~With implementation of these mitigation measures, i~~Impacts to federally protected wetlands resulting from the Alternative 3, Configuration D ~~will~~ would be reduced to a level below significance with implementation of Mitigation Measure MM BIO-8 because LACFCD would successfully establish, reestablish, rehabilitate, and enhance federally protected wetlands to achieve not less than a 1:1 replacement, or no net loss, of federally protected wetlands. In addition, LACFCD would quantitatively monitor the mitigation sites and apply adaptive management measures, as applicable, until the established performance standards are met. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to federally protected wetlands at alternative sites and will monitor those sites until the established performance standards are achieved. LACFCD would also provide long-term management and protection of the mitigation sites. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

*Comparison to Proposed Project and Other Alternatives*

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts on federally protected wetlands due to the reduction in sediment removal and reservoir management areas and associated activities and increased opportunities for restoration and/or enhancement.

Due to the reduction in sediment removal and reservoir management areas and associated activities and increased opportunities for restoration and/or enhancement, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. Alternative 3, Configuration D will also potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal and impacts to downstream wetlands and other sensitive habitats associated with removal activities.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as the wetlands in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

**BIOLOGY-4** *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.*

*Sediment Removal/Reservoir Management*

The Proposed Project area is predominantly open for wildlife movement and habitat connectivity. Sediment removal will not be continuous, as excavation is expected to occur only in the drier months (April to December, excluding holidays). In addition, sediment removal activities would not completely block the Proposed Project site from surrounding habitat, would occur only during the day, and would not interfere with nighttime wildlife activity. Although some wildlife may be temporarily displaced during construction, wildlife would not be physically prevented from moving around and into the basin area. Sediment removal and reservoir management activities associated with Alternative 3, Configuration D ~~will~~ would remove vegetation used for cover, foraging, and nursery sites and interfere temporarily with the movement of native resident or migratory wildlife species, resulting in a potentially significant impact. After the sediment removal phase is completed and after the annual reservoir management activities are completed, equipment will no longer be operating and wildlife would be able to travel unimpeded through the Proposed Project site. With Alternative 3, Configuration D, the LACFCD would restore and enhance riparian habitats (Riparian Woodland and Mule Fat Thickets), Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in the areas located outside of the boundary of the Reservoir Management Area and potentially at offsite areas to create additional cover, foraging, and nursery sites for wildlife as they move through during migration or as they travel to and from parts of their territories. ~~Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact.~~ The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of riparian and other sensitive habitats and thus provide additional cover and foraging opportunities, migratory habitat, and nursery sites for wildlife. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or with the use of native wildlife nursery sites at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, riparian and other sensitive habitats that support wildlife movement, wildlife migration, and wildlife nursery sites can be successfully restored and

enhanced. Successful restoration and enhancement of the habitats that support wildlife movement, wildlife migration, and wildlife nursery sites would achieve not less than a 1:1 replacement, or no net loss, of wildlife habitat. Therefore, implementation of ~~To minimize impacts to less than significant,~~ Mitigation Measures MM BIO-1 through MM BIO-8 ~~has been provided~~would reduce impacts to habitats supporting wildlife movement, wildlife migration, and wildlife nursery sites to a level below significance. This impact will be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and both reservoir management options.

*Mitigation Measures*

See Mitigation Measures MM BIO-1 through MM BIO-8.

*Residual Impacts After Mitigation*

~~As noted in MM BIO-8, restoration and/or enhancement of sensitive habitats will take place on the Proposed Project site. With implementation of these mitigation measures, impacts to use of the habitat for wildlife nursery sites will~~Impacts to movement of native resident and migratory wildlife species, wildlife corridors, and use of the habitat for wildlife nursery sites resulting from the Alternative 3, Configuration D would be reduced to a level below significance with implementation of Mitigation Measures MM BIO-1 through MM BIO-8 because LACFCD would avoid working during nighttime hours, would provide protection of nesting sites during construction, would restore and enhance riparian habitat, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub, would monitor the mitigation sites until they are successful, and would provide long-term management and protection of the mitigation sites. The result would be a no net loss of riparian habitat, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub that can be used for wildlife movement, wildlife migration, and wildlife nursery sites. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

*Comparison to Proposed Project and Other Alternatives*

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to wildlife movement and habitat connectivity due to the reduction in sediment

removal and reservoir management areas and associated activities and increased opportunities for restoration and/or enhancement.

Due to the reduction in sediment removal and reservoir management areas and associated activities and increased opportunities for restoration and/or enhancement, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. Alternative 3, Configuration D will also potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. Sediment deposition and associated removal activities would impact downstream wetlands and other sensitive habitats, would result in interference with the movement of native resident or migratory wildlife species, and would interfere with use of the habitat for wildlife nursery sites due to potential reduction in sensitive habitat.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as the wetlands in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

**BIOLOGY-5** *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

*Sediment Removal/Reservoir Management*

Implementation of Alternative 3, Configuration D will result in the removal of native trees from the Proposed Project site. This impact will be reduced under Alternative 3, Configuration D, as less vegetation and fewer trees will be removed in comparison to the Proposed Project. LACFCD would identify onsite tree replacement areas that are of the same size as the acreage occupied by the canopies of the affected trees. The number of replacement trees installed by LACFCD would be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD would monitor the survival of the trees for five years and replace those that do not survive during the monitoring period, ensuring that a 1:1 ratio of replacement by acreage is met. Implementation of Mitigation Measure MM BIO-7 will reduce impacts to city-protected trees to a level below significance~~.~~ because more trees would be planted than would be lost from implementation of Alternative 3, Configuration D. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-7 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Mitigation Measures*

See Mitigation Measure MM BIO-7.

*Residual Impacts After Mitigation*

Alternative 3, Configuration D will result in a less than significant impact to city-protected trees. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program

*Comparison to Proposed Project and Other Alternatives*

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to loss of native trees due to the reduction in potentially impacted trees.

Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative. Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative

as trees in the reservoir will likely be lost under Alternative 6, No Project Alternative due to continuous sediment deposition.

# Section 4.8.3 ALTERNATIVE 5,

# CONFIGURATION A, HAUL ROUTE ALTERNATIVE –

# Impact Analysis and Comparison to Proposed Project

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*Mitigation Measures*

**MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use only sediment removal dump trucks that meet EPA's emission standards for Model Year ~~2007~~2010 or later.

**MM AQ-2**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment.

*Residual Impacts After Mitigation*

Implementation of these mitigations would reduce the Alternative 5, Haul Route Alternative's combined $NO_X$ emissions during the sediment removal phase to a level of less than significant. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

Reservoir management activities will not violate an air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the Alternative 5, Haul Route Alternative during reservoir management will be consistent with the first indicator. No significant impact would occur.

*Comparison to Proposed Project and Other Alternatives*

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts to air quality plans due to the similarities in sediment removal area and reservoir management Option 1 area and associated activities.

Alternative 5, Haul Route Alternative will potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach and impacts to air quality associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to all of the other alternatives due to a greater amount of sediment removal and reservoir management activities.

**AIR QUALITY-2** *Violate an air quality standard or contribute substantially to an existing or project air quality violation.*

As with the Proposed Project, under Alternative 5, Haul Route Alternative emissions of $NO_X$ exceed the Daily Regional Threshold during sediment removal, resulting in a potentially significant impact. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of Alternative 5, Haul Route Alternative's combined $NO_X$ emissions during sediment removal to a level of less than significant. This impact will be similar in comparison to the Proposed Project due to the identical excavation area and associated sediment removal activities.

As with the Proposed Project, reservoir management for Alternative 5, Haul Route Alternative will not exceed any standard and will result in less than significant impacts.

# Section 4.8.3 ALTERNATIVE 5,

# CONFIGURATION A, HAUL ROUTE ALTERNATIVE –

# Impact Analysis and Comparison to Proposed Project

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Alternative 5, Haul Route Alternative will potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach and impacts to biological resources associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to all the other alternatives.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative as habitat in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

**BIOLOGY-2** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

*Sediment Removal/Reservoir Management*

Alternative 5, Haul Route Alternative will impact the same acreage of Riversidean Alluvial Fan Sage Scrub as the Proposed Project. Impacts to Riversidean Alluvial Fan Sage Scrub will result in a potentially significant impact requiring mitigation. To minimize impacts due to loss of Riversidean Alluvial Fan Sage Scrub, Mitigation Measure MM BIO-6 has been provided. With implementation of this mitigation measure, impacts to Riversidean Alluvial Fan Sage Scrub will be reduced to a level below significance.

Alternative 5, Haul Route Alternative will impact the same acreage of Coastal Sage Scrub as the Proposed Project. Impacts to Coastal Sage Scrub will result in a potentially significant impact requiring mitigation. To minimize impacts due to loss of Coastal Sage Scrub, Mitigation Measure MM BIO-8 has been provided.

This Alternative will impact the same amount of Riparian Woodland and Mule Fat Thickets as the Proposed Project. Riparian Woodland and Mule Fat Thickets are rare plant communities that provide nesting habitat for riparian species. Impacts to these habitats will result in a potentially significant impact. To minimize impacts due to the loss of Riparian Woodland and Mule Fat Thickets, Mitigation Measures MM BIO-7 and MM BIO-8 have been provided. With implementation of these mitigation measures, impacts to Riparian Woodland and Mule Fat Thickets will be reduced to a level below significance.

Alternative 5, Haul Route Alternative will impact the same amount of habitat within CDFW jurisdiction as the Proposed Project. To compensate for the impacts to habitats within CDFW jurisdiction found within the boundaries of the Alternative 5, Haul Route Alternative, the LACFCD would restore and enhance riparian habitats and other sensitive natural communities within onsite or offsite CDFW jurisdictional areas to achieve not less than a 1:1 replacement, or no net loss, of these habitats within CDFW jurisdictional areas (MM BIO-8).

Alternative 5, Haul Route Alternative will impact the same acreage of riparian or sensitive habitat as the Proposed Project. To minimize impacts, Mitigation Measures MM BIO-6 through MM BIO-8 haves been provided. With implementation of theseis mitigation measures, impacts will be reduced to a level below significance. As stated above in the discussion of impacts to Riversidean Alluvial Fan Sage Scrub, Coastal Sage Scrub, and riparian habitats from the Proposed Project, the LACFCD will implement the measures

necessary to achieve successful restoration and enhancement of these plant communities in areas under the jurisdiction of CDFW. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of sensitive habitats, including riparian habitats, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to the riparian habitats and sensitive plant communities within CDFW jurisdiction at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, riparian habitats, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub within areas under the jurisdiction of CDFW can be successfully restored and enhanced. Successful restoration and enhancement of riparian habitats, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub within areas that fall under CDFW jurisdiction would achieve not less than a 1:1 replacement, or no net loss, of these plant communities within CDFW jurisdiction, and therefore implementation of Mitigation Measures MM BIO-6 through MM BIO-8 would reduce impacts to riparian habitats, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub within CDFW jurisdiction to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measures BIO-6, MM BIO-7, and MM BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Mitigation Measures*

**MM BIO – 6:** Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of this sensitive habitat. Measures to achieve not less than a 1:1 replacement, or no net loss, of Riversidean Alluvial Fan Sage Scrub shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreage of Riversidean Alluvial Fan Sage Scrub.
- Identify and map the selected mitigation ~~A~~areas where Riversidean Alluvial Fan Sage Scrub will be enhanced or restored ~~shall be mapped~~ using aerial photographs. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
- Select offsite reference sites where Riversidean Alluvial Fan Sage Scrub is the established plant community. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, and native plant species richness (number of different plant species).
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant (if applicable) and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,

  - Selection criteria of reference sites,
  - Performance standards of the mitigation sites,
  - Monitoring reports and annual reports schedule,
  - Mitigation long-term management plan, and
  - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites and to show that not less than a 1:1 replacement of sensitive habitats has been achieved.
- Quantitatively monitor the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of Riversidean Alluvial Fan Sage Scrub has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
  - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
  - Add soil amendments if problem soils may be inhibiting plant growth,
  - Replant if plant survival is low or to increase plant species cover or diversity,
  - Install different plant species for plant species which are not surviving, and
  - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.

**MM BIO – 7:** Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint to identify native city-protected trees that would ~~will~~ be removed or potentially affected by the Proposed Project, ~~and~~ native city-protected trees that can be avoided, and native city-protected trees that will require root zone protection. LACFCD would ~~will~~ replace native city-protected trees that cannot be avoided. The replacement is expected to be at a ~~up to~~ 1:1 ratio by canopy acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads. The acreage occupied by the canopies of the native city-protected trees to be removed will determine the appropriate level of tree replacement. LACFCD shall identify tree replacement areas that are no less than the acreage of the native city-protected tree canopies to be removed. Priority for tree replacement locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. The number of replacement trees installed by LACFCD will be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD shall monitor the survival of the replacement trees for 5 years and replace those that do not survive

within the monitoring period, ensuring that not less than 1:1 ratio of replacement, or no net loss, has been achieved.

**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).
- Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed , and offsite within the greater Los Angeles River watershed.
- Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,
    - Selection criteria of reference sites,
    - Performance standards of the mitigation sites,
    - Monitoring reports and annual reports schedule,
    - Mitigation long-term management plan, and
    - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.

- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
    - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
    - Add soil amendments if problem soils may be inhibiting plant growth,
    - Replant if plant survival is low or to increase plant species cover or diversity,
    - Install different plant species for plant species which are not surviving, and
    - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.
- Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards.

*Residual Impacts after Mitigation*

Impacts to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service resulting from the sediment removal and reservoir maintenance, Alternative 5, Haul Road Alternative would be reduced to a level below significance ~~W~~with implementation of Mitigation Measures MM BIO-6 through MM BIO-8~~, Alternative 4, Sluicing under sediment removal and reservoir maintenance will result in a less than significant impact on riparian habitat and other sensitive natural communities.~~ because LACFCD would successfully restore and enhance riparian habitats, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in areas that would fall under the jurisdiction of the CDFW, would monitor the mitigation sites until they are successful, and would provide long-term management and protection of the mitigation sites. The result would achieve not less than a 1:1 replacement, or no net loss, of these vegetation communities within CDFW jurisdictional areas. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

*Comparison to Proposed Project and Other Alternatives*

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts to riparian habitat and other sensitive natural communities due to the similarities in sediment removal area and reservoir management Option 1 area.

Alternative 5, Haul Route Alternative will potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment

deposits to develop along the route to the ocean. This would result in need for sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach and impacts to biological resources associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative as habitat in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

**BIOLOGY-3** *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.*

*Sediment Removal/Reservoir Management*

Alternative 5, Haul Route Alternative will impact the same acreage of federally protected wetlands ~~water features~~ as the Proposed Project. As stated for the Proposed Project, the LACFCD will implement successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands to compensate for impacts associated with Alternative 5, Haul Road Alternative. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Mitigation and Monitoring Plan (HMMP) that will outline the means and methods of successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands. The LACFCD will implement the HMMP and will monitor and apply adaptive management, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to federally-protected wetlands at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented by other agencies, federally protected wetlands can be successfully established, reestablished, rehabilitated, and enhanced. Successful establishment, reestablishment, rehabilitation, and enhancement of federally-protected wetlands would achieve not less than 1:1 replacement, or no net loss, of federally protected wetlands. Therefore, implementation of ~~To minimize impacts,~~ Mitigation Measure MM BIO-8 ~~has been provided~~ would reduce impacts to federally protected wetlands. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Mitigation Measures*

See Mitigation Measure MM BIO-8 above.

*Residual Impacts After Mitigation*

As noted in MM BIO-8, wetlands and drainages under the jurisdiction of CDFW, USACE, and RWQCB will be restored and/or enhanced in onsite and potentially offsite areas~~on the Proposed Project site~~. ~~With implementation of these mitigation measures, i~~Impacts to federally protected wetlands resulting from the Alternative 5, Haul Road Alternative ~~will~~ would be reduced to a level below significance with implementation of Mitigation Measure MM BIO-8 because LACFCD would successfully establish, reestablish, rehabilitate, and enhance federally protected wetlands to achieve not less than a 1:1 replacement, or no net loss, of federally protected wetlands. In addition, LACFCD would quantitatively monitor the mitigation sites and apply adaptive management measures, as applicable, until the established performance standards are met. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to federally protected wetlands at alternative sites and will monitor those sites until the established performance standards are achieved. LACFCD would also provide long-term management and protection of the mitigation sites. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

*Comparison to Proposed Project and Other Alternatives*

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts on federally protected wetlands due to the similar sediment removal area and reservoir management Option 1 area.

Alternative 5, Haul Route Alternative will potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach and impacts to biological resources associated with removal activities.

Due to the larger sediment removal and reservoir management areas, Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative3, Configuration D.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative, as the wetlands in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

**BIOLOGY-4** *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.*

*Sediment Removal/Reservoir Management*

The Proposed Project area is predominantly open for wildlife movement and habitat connectivity. Sediment removal will not be continuous, as excavation is expected to occur only in the drier months (April to December, excluding holidays). In addition, sediment removal activities would not completely

block the Proposed Project site from surrounding habitat, would occur only during the day, and would not interfere with nighttime wildlife activity. Although some wildlife may be temporarily displaced during construction, wildlife would not be physically prevented from moving around and into the basin area. Sediment removal and reservoir management activities associated with Alternative 5, Haul Route Alternative ~~will~~ would remove vegetation used for cover, foraging, and nursery sites and interfere temporarily with the movement of native resident or migratory wildlife species, resulting in a potentially significant impact. Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact. After the sediment removal phase is completed and after the annual reservoir management activities are completed, equipment will no longer be operating and wildlife would be able to travel unimpeded through the Proposed Project site. With Alternative 3, Configuration D, the LACFCD would restore and enhance riparian habitats (Riparian Woodland and Mule Fat Thickets), Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in the areas located outside of the boundary of the Reservoir Management Area and potentially at offsite areas to create additional cover, foraging, and nursery sites for wildlife as they move through during migration or as they travel to and from parts of their territories. ~~Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact.~~ The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of riparian and other sensitive habitats and thus provide additional cover and foraging opportunities, migratory habitat, and nursery sites for wildlife. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or with the use of native wildlife nursery sites at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, riparian and other sensitive habitats that support wildlife movement, wildlife migration, and wildlife nursery sites can be successfully restored and enhanced. Successful restoration and enhancement of the habitats that support wildlife movement, wildlife migration, and wildlife nursery sites would achieve not less than a 1:1 replacement, or no net loss, of wildlife habitat. Therefore, implementation of ~~To minimize impacts to less than significant,~~ Mitigation Measures MM BIO-1 through MM BIO-8 ~~has been provided~~would reduce impacts to habitats supporting wildlife movement, wildlife migration, and wildlife nursery sites to a level below significance. This impact will be similar in comparison to the Proposed Project due to the similarities in area disturbed during sediment removal and reservoir management Option 1.

*Mitigation Measures*

See Mitigation Measures MM BIO-1 through MM BIO-8.

*Residual Impacts After Mitigation*

~~As noted in MM BIO-8, restoration and/or enhancement of sensitive habitats will take place on the Proposed Project site. With implementation of these mitigation measures, impacts to use of the habitat for wildlife nursery sites will~~Impacts to movement of native resident and migratory wildlife species, wildlife corridors, and use of the habitat for wildlife nursery sites resulting from the Alternative 5, Haul Road Alternative would be reduced to a level below significance with implementation of Mitigation Measures MM BIO-1 through MM BIO-8 because LACFCD would avoid working during nighttime hours, would provide protection of nesting sites during construction, would restore and enhance riparian habitat, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub, would monitor the mitigation sites until they are successful, and would provide long-term management and protection of the mitigation sites. The result would be a no net loss of riparian habitat, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub that can be used for wildlife movement, wildlife migration, and wildlife nursery sites. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

*Comparison to Proposed Project and Other Alternatives*

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts to wildlife movement and habitat connectivity due to the similarities in sediment removal area and reservoir management Option 1 area.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits to develop along the route to the ocean. This would result in need for sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach and impacts to biological resources associated with removal activities.

Due to the larger sediment removal and reservoir management areas, Alternative 5, Haul Route Alternative will be environmentally inferior to all the other alternatives.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative as the wetlands in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

**BIOLOGY-5** *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

*Sediment Removal/Reservoir Management*

Implementation of Alternative 5, Haul Route Alternative will result in the removal of native city-protected trees from the Proposed Project site. This impact will be the same as with the Proposed Project, as the same amount of vegetation and trees will be removed. LACFCD would identify onsite tree replacement areas that are of the same size as the acreage occupied by the canopies of the affected trees. The number of replacement trees installed by LACFCD would be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed.

LACFCD would monitor the survival of the trees for five years and replace those that do not survive during the monitoring period, ensuring that a 1:1 ratio of replacement by acreage is met. Implementation of Mitigation Measure MM BIO-7 will reduce impacts to city-protected trees to a level below significance. because more trees would be planted than would be lost from implementation of Alternative 5, Haul Road Alternative. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-7 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

*Mitigation Measures*

See Mitigation Measure MM BIO-7.

*Residual Impacts After Mitigation*

Alternative 5, Haul Route Alternative will result in a less than significant impact to city-protected trees. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program.

# Section 6.0 REFERENCES

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## SECTION 6.0 – REFERENCES

1. *AEGISS, Inc., 2012. Draft Environmental Assessment NASA Jet Propulsion Laboratory On-Site Parking Structure. June 2012.*
2. *Allen, R. L. and F. M. Roberts. 2013. Wildflowers of Orange County and the Santa Ana Mountains. Laguna Wilderness Press. 498pp.*
3. *Ambrose, R. F., J. L. Callaway, and S. F. Lee. 2007. An Evaluation of Compensatory Mitigation Projects Permitted Under Clean Water Act Section 401 by the California State Water Resources Control Board, 1991-2002.*
4. *American Golf Website, 2012. http://www.americangolf.com/brookside-golf-club.*
5. *Analysis of a Cajon Creek Habitat Conversation Management Area Revegetation Effort. February 25, 2013. Prepared for Vulcan Materials Company.*
6. *Bean, L.J. and C.R. Smith. 1978. "Gabrielino." In California Handbook of North American Indians, R. F. Heizer, editor. Vol. 8. Washington, D.C.: Smithsonian Institution.*
7. *Bureau Veritas. 2013. Fine Sediment Transport Capacity Analysis for the Arroyo Seco Channel.*
8. *California Air Resources Board (CARB). Climate Change Scoping Plan – "A Framework for Change." December 2008.*
9. *California Air Resources Board (CARB). Almanac Emissions Projection Data. http://www.arb.ca.gov/app/emsinv/. Accessed October 2011.*
10. *California Air Resources Board (CARB). 2012a. Ambient Air Quality Standards. June 7, 2012.*
11. *California Air Resources Board. 2012b. Proposed 2012 Amendments to Area Designations for State Ambient Air Quality Standards. Staff Report: Initial Statement of Reasons for Rulemaking. Attachment C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. July 20, 2012.*
12. *California Air Resources Board (CARB). The California Almanac of Emissions and Air Quality, 2009 Edition. Planning and Technical Support Division. http://www.arb.ca.gov/aqd/almanac/almanac09/almanac2009all.pdf. Accessed March 2013.*
13. *California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective. 2005.*
14. *California Air Resources Board. ADAM Air Quality Data Statistics. http://www.arb.ca.gov/adam/welcome.html. Accessed March 2013.*
15. *California Air Resources Board (CARB). The 2011 Carl Moyer Program Guidelines. March 27, 2013.*
16. *California Air Resources Board (CARB). Local Government Operations Protocol: For the quantification and reporting of greenhouse gas emissions inventories. Version 1.1.California Air Resources Board, California Climate Action Registry, ICLEI - Local Governments for Sustainability, and The Climate Registry. May 2010*
17. *California Department of Conservation, California Geological Survey, Division of Mines and Geology (CDMG), 2010. California Non-Fuel Minerals 2010. John Clinkenbeard, Supervising Engineering Geologist (PG#4731) and Joshua Smith, Engineering Geologist (GIT #379), California Geological Survey.*
18. *California Department of Fish and Wildlife (CDFW). 2017. RareFind 5 Natural Diversity Database (CNDDB) Version Commercial Version. Retrieved May 2017, from CDFW, Biogeographic Data Branch.*
19. *California Department of Forestry and Fire Protection (CalFire). Top 20 Largest California Wildfires. September 24, 2013.*

20. *California Department of Resources, Recycling and Recovery (CalRecycle). 2013,* http://www.calrecycle.ca.gov/SWFacilities/Directory/
21. *California Department of Toxic Substances Control (DTSC). 2005. Determination of a Southern California Regional Background Arsenic Concentration in Soil.*
22. *California Department of Transportation (Caltrans), Scenic Highway Program, 2013, http://www.dot.ca.gov/dist3/departments/mtce/scenic.htm*
23. *California Department of Transportation (Caltrans), Eligible and Officially Designated Routes, 2011, http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm.*
24. *California Department of Water Resources (DWR). 2003. "California's Groundwater Bulletin 118."*
25. *California Division of Land Resource Protection. Farmland Mapping and Monitoring Program. 2006.*
26. *California Environmental Protection Agency, Climate Action Team (CalEPA). Climate Action Team Report to Governor Schwarzenegger and the California Legislature. March 2006.*
27. *California Water Code § 13050. 1996.* http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=WAT&sectionNum=13050
28. *California Wetlands Monitoring Workgroup (CWMW). 2013. California Rapid Assessment Method (CRAM) for Wetlands, Version 6.1 pp. 67.*
29. *Chambers Group, Inc. 2013a. Jurisdictional Delineation Report Devil's Gate Reservoir Sediment Removal and management Project in the in the City of Pasadena, Los Angeles County, California. June.*
30. *Chambers Group, Inc. 2013b. Report of Findings for the General Biological Resource and Presence/Absence Fish Surveys, Los Angeles County, California. February.*
31. *Chambers Group, Inc. 2013c. Focused Protocol Surveys for Least Bell's Vireo at the Devil's Gate Reservoir, Los Angeles County, California.*
32. *Chambers Group, Inc. 2011. Class III Cultural Resources Inventory, Devil's Gate Reservoir Sediment Removal and Management Project, Pasadena, California. November 2011.*

33. *Chambers Group, Inc. 2010a. Biological Technical Report for the Devil's Gate Reservoir Project Site in the City of Pasadena, Los Angeles County, California*. November.
34. *Chambers Group, Inc. 2010b. Devil's Gate Reservoir Vegetation Community and Oak Tree Tables (letter report). December.*
35. *Chambers Group, Inc. 2004. Coastal Sage Scrub Mitigation and Monitoring Plan for the Tonner Hills Planned Community. Prepared for Nuevo Energy Company. February.*
36. *City of Azusa General Plan. April 2004.* http://www.ci.azusa.ca.us/index.aspx?nid=160
37. *City of Irwindale General Plan Update. June 2008*
38. *City of La Cañada Flintridge General Plan. Circulation Element. Adopted January 2013.*
39. *City of Los Angeles, Transportation Element of the General Plan. Adopted September 1999.*
40. *City of Malibu Planning Division. 2010a. Rambla Pacifico Street Reconstruction Project Final Environmental Impact Report State Clearinghouse #: 2010031128. May 2010.*
41. *City of Malibu Planning Commission. 2010b. Malibu Planning Commission Meeting Minutes. June 1, 2010.*
42. *City of Malibu. 2002. Local Coastal Program Local Implementation Plan. September 13, 2002.*
43. *City of Pasadena, Devil's Gate Dam and Reservoir Easement Deed, March 1, 1965.*
44. *City of Pasadena. 2004. General Plan Land Use Map.*
45. *City of Pasadena, Draft Master EIR Arroyo Seco Master Plan Project, Volume I, May 16, 2002.*
46. *City of Pasadena Dept. of Public Works website, 2012a. http://www.ci.pasadena.ca.us/PublicWorks/Pasadena_City_Parks/.*
47. *City of Pasadena website, 2013. http://www.ci.pasadena.ca.us/publicworks/arroyo_trails/*
48. *City of Pasadena. (2012b) Hahamongna Multi-Benefit/Multi-Use Project. Initial Study. Prepared July 2012.*
49. *City of Pasadena, Planning Division. (2012c) City of Pasadena General Plan Open Space and Conservation Element. 2012.*
50. *City of Pasadena. (2012d) Personal communication with Raphael Guillen, City of Pasadena.*
51. *City of Pasadena, Planning Division. Land Use and Mobility Elements, Zoning Code Restrictions, and Central District Specific Plan. Final Environmental Impact Report. September 2004.*
52. *City of Pasadena. Green City Action Plan. City of Pasadena, Planning and Development Department. September 18, 2006.*
53. *City of Pasadena. 2010 Green City Indicators Report. City of Pasadena Green Team.*
54. *City of Pasadena. 2007. Green Space, Recreation and Parks Element. Updated November 5, 2007.*
55. *City of Pasadena. Greenhouse Gas Emissions Inventory and Reduction Plan. October 2009.*
56. *City of Riverside Planning Division. 2016a. Quail Run Apartments Mitigated Negative Declaration. January 21, 2016.*
57. *City of Riverside Community and Economic Development Department. 2016b. Planning Cases P14-0683, P14-0684, P14-0685, P15-1080, P15-1081 and P15-1082 – General Plan Amendment, Rezoning, Design Review and Variances to Permit a Residential Development 601 Central Avenue. May 19, 2016.*
58. *City of South Pasadena Parks and Recreation website, 2012. http://www.cityofsouthpasadena.us/parks/parks.html.*
59. *Cleland, Robert G. 1941. The Cattle on a Thousand Hills: Southern California, 1850-1870. Huntington Library, San Marino, California.*
60. *County of Los Angeles Department of Agricultural Commissioner. 2014. Personal communication with Dr. Gevork Arakelian, Senior Biologist, October 2014.*

61. *County of Los Angeles Department of Public Works (LACDPW). 1996. Los Angeles River Master Plan. June. http://ladpw.org/wmd/watershed/LA/LARMP/*
62. *County of Los Angeles Department of Public Works (LACDPW). 2008. Los Angeles County Flood Control District Opens Historic LA River Wetlands Project. http://dpw.lacounty.gov/wmd/documents/DominguezGap_article.cfm*
63. *Elzinga, C.L., D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. Bureau of Land management, Denver CO.*
64. *Environmental Data Resources, Inc. (EDR). 2011. Hazardous Materials Agency Database Review.*

65. *Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.*
66. *Garza, V.J., Graney, P., Sperling, D. 1997. Transportation Project-Level Carbon Monoxide Protocol. University of California Davis, Institute of Transportation Studies.*
67. *Google Earth, 2011.*
68. *Google Earth, 2012.*
69. *Hahamongna Watershed Park Master Plan (HWPMP). Adopted September 29, 2003. City of Pasadena. Arroyo Seco Master Plans.*
70. *Hanes, T.L., R.D. Friesen, and K. Keane. 1989. Alluvial Scrub Vegetation in Coastal Southern California. General Technical Report PSW-110. Pacific Southwest Forest and Range Experiment Station, Forest Service, United States Department of Agriculture; p. 187-193.*
71. *Hall & Foreman, Inc. Traffic Impact Analysis for Devil's Gate Reservoir Sediment Removal and Management Project. September 2013.*
72. *Hall & Foreman, Inc. (2013b) Personal communication with Vulcan Materials, Inc. Email to Hall & Foreman, Inc. from Vulcan Materials, Inc. September 2013.*
73. *Hayes, S.J. and E.J. Holzmueller. 2012. Relationship between Invasive Plant Species and Forest Fauna in Eastern North America. Forest 3, 840-852.*
74. *Impact Sciences, Inc. 2013. Temporary Use of the Rose Bowl Stadium by the NFL. Environmental Impact Report.*
75. *Kearney Foundation 1996. Kearney Foundation Special Report: Background Concentrations of Trace and Major Elements in California Soils. March 1996.*
76. *Kidspace Museum website, 2012. http://www.kidspacemuseum.org/.*
77. *Kong, D., Huitric, R., Iacoboni, M., and Chan, G. Evaluation of Green Waste Management Impacts on GHG Emissions – Alternative Daily Cover Compared with Composting. Los Angeles County Sanitation Districts, Solid Waste Division, 2008.*
78. *Kroeber, A.L. 1976. Handbook of the Indians of California. Bureau of American Ethnology Bulletin, 78. Washington, D.C.: Smithsonian Institution. (Reprint, New York: Dover Publications.)*
79. *Leighton Consulting, Inc. 2013. Feasibility-Level Geotechnical and Geochemical Exploration Report Devil's Gate Reservoir Sediment Removal and Management Project, Pasadena, California. July 5.*
80. *Los Angeles County Parks and Recreation website, 2012.* http://parks.lacounty.gov/.
81. *Los Angeles County Sanitation District website, 2013. http://www.lacsd.org/solidwaste/swfacilities/landfills/scholl/*
82. *Los Angeles Department of Water and Power. 2012. Tujunga Spreading Grounds Enhancement Project Draft EIR.*
83. *Los Angeles Regional Water Quality Control Board (LARWQCB). 1994. "Los Angeles Region Water Quality Control Plan."*
84. *MACH 1. 2014. Comment letter from Joy Rittenhouse, MACH 1.*
85. *Martha Blane & Associates. 1996. Habitat Enhancement and Management Plan for Cajon Creek Habitat Conservation Management Area. Prepared for CalMat Company. July 1996.*
86. *McCawley, William.1996. The First Angelinos: The Gabrielino Indians of Los Angeles. Malki Museum Press, Morongo Indian Reservation, Banning, California.*
87. *Moratto, M.J. 1984. California Archaeology. Orlando: Academic Press.*
88. *Natural Resources Conservation Service (NRCS). 2010. National Resources Inventory (NRI) Rangeland Resource Assessment – Non-Native Plant Species. United States Department of Agriculture. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1041751.pdf.*
89. *Oak Grove Disc Golf Club. 2012. Personal communication with Greg Walchin.*

90. *OB-1 2013. Air Quality Report. Devil's Gate Reservoir Sediment Removal and Management Project. September 2013.*
91. *Partners for Fish and Wildlife. 2006a. Pursuant to 16 USCS § 3772 (5), [Title 16. Conservation; Chapter 57B.]* https://definitions.uslegal.com/h/habitat-restoration/
92. *Partners for Fish and Wildlife. 2006b. Pursuant to 16 USCS § 3772 (2), [Title 16. Conservation; Chapter 57B.]* https://definitions.uslegal.com/h/habitat-enhancement/
93. *Pasadena Audubon Society. 2012. Personal communication with Laura Garrett.*
94. *Pasadena Audubon Society website. 2013. http://www.pasadenaaudubon.org/*
95. *Pasadena Star News. 2012. Rare, Endangered Bird Spotted in Pasadena, San Gabriel River. http://www.pasadenastarnews.com/ci_21668432/rare-endangered-bird-spotted-pasadena-san-gabriel-river. October 1.*
96. *Riparian Habitat Joint Venture (RHJV). 2004. Version 2.0. The riparian bird conservation plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/pdfs/riparian.v-2.pdf.*
97. *Rose Bowl Aquatics Website, 2012.* http://www.rosebowlaquatics.com/.
98. *Rose Bowl Riders. 2012. Personal communication with Heidy Kelman, Rose Bowl Riders.*
99. *Rose Bowl Stadium. 2012.* http://www.rosebowlstadium.com/index.php.
100. *Sawyer and Keeler-Wolf. 1995. A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.
101. *Smith, R.L. 1980. Alluvial Scrub Vegetation of the San Gabriel River Floodplain, California. Madrono 27: 126-138.*
102. *Society for Ecological Restoration Science & Policy Working Group (SER). 2002. The SER Primer on Ecological Restoration. Accessed at: www.ser.org/, on June 14 2017.*
103. *South Coast Air Quality Management District (SCAQMD).1993. CEQA Air Quality Handbook.*
104. *South Coast Air Quality Management District (SCAQMD). Final 2012 Air Quality Management Plan. Adopted December 7, 2012.*
105. *South Coast Air Quality Management District (SCAQMD). Air Quality Significance Thresholds. Revised October 2006.*
106. *South Coast Air Quality Management District (SCAQMD). Final Localized Significance Threshold Methodology. Revised July 2008.*
107. *South Coast Air Quality Management District (SCAQMD). Off-Road Engines Mitigation Measure Tables.* http://www.aqmd.gov/ceqa/handbook/mitigation/offroad/MM_offroad.html.Accessed May 2013.

108. *State Water Resources Control Board (SWRCB). Communication with Mr. Patrick Otsuji of SWRCB. 2012.*
109. *State of California Executive Department. Governor's Executive Order No. W-59-93. August 23, 1993.*
110. *Tom Sawyer Camp. 2012. Personal communication with Sarah Fish.*
111. *University of California, Riverside (UCR). 2014. Polyphagous Shot Hole Borer. https://cisr.ucr.edu/polyphagous_shot_hole_borer.html. October 2014.*
112. *U. S. Army Corps of Engineers (USACE). 2015. Final 2015 Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE: 70.*
113. *U.S. Army Corps of Engineers (USACE). 2010. "Los Angeles County's Arroyo Seco Watershed Ecosystem Restoration Study."*
114. *U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Environmental Laboratory. September 2008.*
115. *U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory. January 1987.*
116. *United States Department of the Interior (USDOI). Fish and Wildlife Service. 1993. Endangered and Threatened Wildlife and Plants: Determination of Threatened Status for the Coastal California Gnatcatcher. Federal Register Vol. 58, No. 59, 50 CFR Part 17, RIN 1018-AB56. March 30, 1993. Pages 16742 - 16757.*
117. *U.S. Environmental Protection Agency (USEPA). Compilation of Air Pollutant Emission Factors – AP-42, Volume 1, Fifth Edition. January 1995.*
118. *United States Environmental Protection Agency (USEPA). 2002. National Wetlands Mitigation Action Plan. Accessed at https://www.epa.gov/sites/production/files/2015-08/documents/national_wetlands_mitigation_action_plan_0.pdf, on June 15 2017.*
119. *U.S. Environmental Protection Agency (USEPA). Conversion Factor from Update Heavy Duty Emission Conversion Factors for MOBILE6: Analysis of BSCFs and Calculation of Heavy-Duty Engine Conversion Factors. USEPA, Motor Vehicle Emissions Laboratory. EPA420-P-98-015. May 1998.*
120. *United States Fish and Wildlife Service. 2005. Approval of 14 and 20-acre Coastal Sage Scrub Restoration Sites Associated with the Tonner Hills Planned Community in Orange County, California. Carlsbad Fish and Wildlife Office, Carlsbad, California. Letter dated July 15, 2005.2 pp.*
121. *United States Fish and Wildlife Service (USFWS). 2001. Least Bell's vireo survey guidelines. Carlsbad Field Office, Carlsbad, California. Letter dated January 19, 2001.3 pp.*
122. *Vista Environmental. Health Risk Assessment: Devil's Gate Reservoir Sediment Removal and Management Project. September 27, 2013.*
123. *Western Regional Climate Center. Western U.S. Climate Historical Summaries. http://www.wrcc.dri.edu/ Climsum.html. Accessed May 2013.*

# Section 8.0 CLARIFICATIONS AND MODIFICATIONS –

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ES-12 In the 3rd full row of Table ES-1, the following clarifications have been made:

| | | |
|---|---|---|
| **Air Quality** | | |
| Air Quality-1: Conflict with the implementation of SCAQMD air quality management plan due to sediment removal emissions of $NO_X$ exceeding the Daily Regional Threshold will result in a significant impact. | **MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use ***only*** sediment removal dump trucks that meet the EPA's emission standards for Model Year 2010 ~~2007~~ ***or later*** ~~as reasonably feasible~~.<br>**MM AQ-2**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment. | ***Less than Significant*** ~~Full implementation of these mitigations could be unachievable. Therefore, impact remains significant and unavoidable.~~ |
| Air Quality-2 and Air Quality-3: Sediment removal emissions of $NO_X$ will exceed the SCAQMD Daily Regional Threshold, resulting in a significant impact to an air quality standard. | See MM AQ-1 and MM AQ-2. | ***Less than Significant*** ~~Full implementation of these mitigations could be unachievable. Therefore, impact remains significant and unavoidable.~~ |
| Air Quality 6: Sediment removal emissions of $NO_X$ will exceed the SCAQMD Daily Regional Threshold, resulting in a cumulatively significant impact. | See MM AQ-1 and MM AQ-2. | ***Less than Significant*** ~~Full implementation of these mitigations could be unachievable. Therefore, impact remains significant and unavoidable.~~ |

ES-12 In the 6th full row of Table ES-1 under Biological Resources, the following clarifications have been made:

| | | |
|---|---|---|
| **Biological Resources** | | |
| Biology-1: Removal of habitat during sediment removal will result in a potentially significant impact to five special status wildlife species (least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake) and nesting native birds and roosting bats. | **MM BIO – 1**: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities ***to provide measures and monitor for wildlife in harm's way. This includes initial ground- or vegetation-disturbing project-related activities at the annual start of each year of sediment removal or maintenance activities***. Following initial project-related activities, a qualified monitoring biologist shall be present as necessary to maintain the implemented protection measures and monitor for additional species in harm's way. ***These protection measures shall include, as appropriate: redirecting wildlife, identifying areas that may require exclusionary devices (e.g., fencing), or capturing and relocating wildlife*** | |

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| | | |
|---|---|---|
| | ***of roosting bats***<br>▪ ***The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD.*** | |
| Biology-2: A significant impact will occur to riparian habitats and sensitive habitats. | **MM BIO – 6:** Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of this sensitive habitat. Measures to achieve not less than a 1:1 replacement, or no net loss, of Riversidean Alluvial Fan Sage Scrub shall include but not be limited to the following:<br><br>• Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreage of Riversidean Alluvial Fan Sage Scrub.<br>• Identify and map the selected mitigation ~~A~~areas where Riversidean Alluvial Fan Sage Scrub will be enhanced or restored ~~shall be mapped~~ using aerial photographs. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.<br>• Select offsite reference sites where Riversidean Alluvial Fan Sage Scrub is the established plant community. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, and native plant species richness (number of different plant species).<br>• Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:<br>o Site-specific container plant (if applicable) and seed palettes,<br>o Irrigation plan, | Less than significant |

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| | o Nonnative and invasive plant species removal,<br>o Maintenance and monitoring schedule,<br>o Qualitative and quantitative monitoring methodologies,<br>o Selection criteria of reference sites,<br>o Performance standards of the mitigation sites,<br>o Monitoring reports and annual reports schedule,<br>o Mitigation long-term management plan, and<br>o Funding description for implementation and long-term management.<br>• Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites and to show that not less than a 1:1 replacement of sensitive habitats has been achieved.<br>• Quantitatively monitor the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of Riversidean Alluvial Fan Sage Scrub has been achieved.<br>• Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:<br>o Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,<br>o Add soil amendments if problem soils may be inhibiting plant growth,<br>o Replant if plant survival is low or to increase plant species cover or diversity,<br>o Install different plant species for plant species which are not surviving, and<br>o Close trails or install barriers if human caused impacts are damaging the mitigation sites.<br>• Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management | |

- measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.

**MM BIO – 7:** Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint to identify native city-protected trees that would ~~will~~ be removed or potentially affected by the Proposed Project, ~~and~~ native city-protected trees that can be avoided, and native city-protected trees that will require root zone protection. LACFCD would ~~will~~ replace native city-protected trees that cannot be avoided. The replacement is expected to be at a ~~up to~~ 1:1 ratio by canopy acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads. The acreage occupied by the canopies of the native city-protected trees to be removed will determine the appropriate level of tree replacement. LACFCD shall identify tree replacement areas that are no less than the acreage of the native city-protected tree canopies to be removed. Priority for tree replacement locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. The number of replacement trees installed by LACFCD will be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD shall monitor the survival of the replacement trees for 5 years and replace those that do not survive within the monitoring period, ensuring that not less than 1:1 ratio of replacement, or no net loss, has been achieved.

**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. ***Non-native, weedy*** ~~Ruderal~~ habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional

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| | restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:<br><br>• Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).<br>• Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed , and offsite within the greater Los Angeles River watershed.<br>• Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.<br>• Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:<br>o Site-specific container plant and seed palettes,<br>o Irrigation plan,<br>o Nonnative and invasive plant species removal,<br>o Maintenance and monitoring schedule,<br>o Qualitative and quantitative monitoring | |

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| | methodologies,<br>o Selection criteria of reference sites,<br>o Performance standards of the mitigation sites,<br>o Monitoring reports and annual reports schedule,<br>o Mitigation long-term management plan, and<br>o Funding description for implementation and long-term management.<br>• Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.<br>• Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.<br>• Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:<br>o Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,<br>o Add soil amendments if problem soils may be inhibiting plant growth,<br>o Replant if plant survival is low or to increase plant species cover or diversity,<br>o Install different plant species for plant species which are not surviving, and<br>o Close trails or install barriers if human caused impacts are damaging the mitigation sites.<br>Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD | |

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| | shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.<br>• Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.<br>Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards. | |

# Section 8.0 CLARIFICATIONS AND MODIFICATIONS

## Pages 690 – 694

For reservoir management under Option 2, at the end of the sediment removal phase, implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8 would involve habitat restoration and enhancement and tree replacement in the remaining approximately ***28.72***~~86.45~~ acres on the northern half of the reservoir.

**Section 3.5 Air Quality**

| **Page** | **Clarification/Revision** |
|---|---|
| 76 | In the 3rd paragraph under Sensitive Receptors, the following detail has been added:<br><br>The Proposed Project is located adjacent to residential areas, and 10 schools are located within one-half mile: i.e., Crestview Preparatory, Franklin Elementary, Hillside School and Learning Center, Jackson Elementary, La Cañada High School ***(includes La Cañada Junior High School)***, ***Child Education Center,*** Nanny's Nursery, Odyssey Charter, and Woodbury Preschool Village. |
| 85 | In the 2nd paragraph of 3.5.6 Impacts and Mitigation, the following clarifications have been made:<br><br>Use of sediment removal dump trucks that meet EPA's emission standards for Model Year 2010 or later ~~2007~~ and use of off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 interim equipment, would result in a reduction of $NO_X$ emissions to less than the SCAQMD Regional Threshold for $NO_X$. As EPA's $NO_X$ standard was phased-in for diesel engines between 2007 and 2010, use of sediment haul trucks that are Model Year 2010 or later will assure 100 percent compliance with EPA's $NO_X$ standard. ~~Every effort will be made to strive for the newest vehicles/equipment reasonably available.~~ Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of $NO_X$ emissions to less than the SCAQMD Regional Threshold for $NO_X$. ***Therefore, impacts during sediment removal will be less than significant.***~~; however, the actual vehicles/equipment used may not reach the levels required to reduce the $NO_X$ emissions to a level of less than significant for the sediment removal phase. Therefore, the Proposed Project during sediment removal will not meet the first indicator.~~ |
| 85 | In the 6th paragraph of 3.5.6 Impacts and Mitigation, the following clarifications have been made:<br><br>**MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use ***only*** ~~as many~~ sediment removal dump trucks that meet EPA's emission standards for Model Year 2010 ~~2007~~ ***or later*** ~~as reasonably feasible~~. |
| 86 | In the 8th paragraph of 3.5.6 Impacts and Mitigation, the following clarifications have been made:<br><br>Implementation of these mitigations would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal phase~~; however while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual~~ |

~~vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant**.** ~~; therefore, this impact remains significant and unavoidable.~~

87 In Table 3.5-6, the following edits have been made:

**Table 3.5-6: Unmitigated Sediment Removal Emissions**

| Category | Maximum Daily Emissions (lbs/d) | | | | |
|---|---|---|---|---|---|
| | ROG | CO | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Off-Road | 7.54 | 33.99 | 55.18 | 2.87 | 2.87 |
| On-Road Trucks | 7.15 | 34.87 | 314.93 | 5.33 | 4.91 |
| ***Onsite Idling*** | ***0.44*** | ***1.89*** | ***7.88*** | ***0.05*** | ***0.05*** |
| Employees | 0.07 | 2.44 | 0.24 | 0.00 | 0.00 |
| Fugitive | 0.00 | 0.00 | 0.00 | 27.30 | 4.44 |
| **Project Maximum Daily** | ***15.2~~14.78~~*** | ***73.2~~71.30~~*** | ***378.2~~370.30~~*** | **13.70** | **8.70** |
| SCAQMD Daily Threshold | 75.00 | 550.00 | 100.00 | 150.00 | 55.00 |
| **Exceeds Threshold?** | No | No | **Yes** | No | No |

88 In the 1st and 2nd paragraphs under Off-Road, the following revisions have been made:

Reduction of impacts from off-road equipment usage during the sediment removal can be accomplished by requiring the Proposed Project Contractor to use only EPA ***Tier 3*** ~~Tier 4 interim~~ equipment. ***Tier 3*** ~~Tier 4 interim~~ emissions standards are addressed in 40 Code of Federal Regulations (CFR), Part 1039 which addresses new compression-ignition non-road (i.e., CARB off-road equivalent) engines. Standards were phased in for various power categories with the latest being effective in 2011.

The emission factor used to estimate off-road equipment in this AQR was obtained from tables presented in CalEEMod's User Guidelines and represents the statewide average of equipment for each category. The factors for Fleet Year 2015 most closely compare to an average fleet of Tier 2 equivalent equipment. Applying the percentage reductions from Tier 2 to ***Tier 3*** ~~Tier 4 interim~~ to the unmitigated emissions represented above reduces the $NO_X$ emissions from the off-road component for the sediment removal phase of the Proposed Project (SCAQMD 2013).89 In the 12th paragraph of AIR QUALITY-2, the following clarifications have been made:

As shown in Table 3.5-7 below, use of sediment removal dump trucks that meet EPA's emission standards for Model Year <u>2010 or later</u> ~~2007~~ and use of off-road equipment that meets, at a minimum, EPA's emission standards for ***Tier 3*** ~~Tier 4 interim~~ equipment would result in a reduction of the Proposed Project's combined $NO_X$ emissions during the sediment removal to less than the SCAQMD Regional Threshold for $NO_X$. ~~Every effort will be made to strive for the newest vehicles/equipment reasonably available.~~ Implementation of

Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of $NO_X$ emissions~~; however, the actual vehicles/equipment used may not reach the levels required to~~ ***and will*** reduce the $NO_X$ emissions to a level of less than significant for the sediment removal phase.

89 In Table 3.5-7, the following edits have been made:

**Table 3.5-7: Sediment Removal Emissions with Model 2010 ~~2007~~ Sediment Removal Trucks and *Tier 3* ~~Tier 4~~ ~~Interim~~ Off-road Equipment**

| Category | Maximum Daily Emissions (lbs/d) | | | | |
|---|---|---|---|---|---|
| | ROG | CO | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Off-Road | 4.71~~20~~ | 33.99 | ***22.05***~~21.88~~ | ***2.60***~~0.22~~ | ***2.15***~~0.22~~ |
| On-Road Trucks | 7.15 | 34.87 | 18.90 | 1.07 | 0.98 |
| ***Onsite Idling*** | ***0.44*** | ***1.89*** | ***2.48*** | ***0.01*** | ***0.01*** |
| Employees | 0.07 | 2.44 | 0.24 | 0.00 | 0.00 |
| Fugitive | 0.00 | 0.00 | 0.00 | 5.46 | 0.89 |
| **Project Maximum Daily** | ***12.4~~11.47~~*** | ***73.2~~71.32~~*** | ***81.7~~41.05~~*** | ***10.5~~6.80~~*** | ***5.2~~2.10~~*** |
| SCAQMD Daily Threshold | 75.00 | 550.00 | 100.00 | 150.00 | 55.00 |
| **Exceeds Threshold?** | No | No | No | No | No |

89 In the 1st paragraph under Reservoir Management, the following changes have been made:

Emissions will be related to the off-road equipment used for reservoir management under both options, including four front loaders with 2-cubic-yard buckets, one bulldozer, an excavator, a grader, water truck, and sorters/crushers. Removal of the sediment, vegetation, trees, and organic debris is expected to require an estimated ***200 to a*** maximum of ~~2~~ ***300*** truck trips per day. It is estimated that during the first week approximately 25 percent of the debris will be green waste trucked to the Scholl Canyon Landfill, and the remaining 75 percent of trucking will be sediment distributed to the other sites. During reservoir management it is estimated that for the total trips, 2 percent will go to Scholl Canyon Landfill, 75 percent will go to the Irwindale sites, and 23 percent will go to the Sun Valley sites. ***Reservoir management activities will use only disposal trucks that meet EPA's emission standards for Model Year 2010 ~~2007~~ or later and Tier 3 or higher equipment.***

91 In Table 3.5-8, the following edits have been made:

**Table 3.5-8: Unmitigated Reservoir Management Activity***

| Category | Maximum Daily Emissions (lbs/d) | | | | |
|---|---|---|---|---|---|
| | ROG | CO | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Off-Road | ***2.86***~~3.14~~ | ***17.29***~~16.57~~ | 19.26 | 0.9***82*** | 0.9***82*** |
| On-Road Trucks | 2.***82***~~17~~ | ***17.47***~~12.16~~ | ***40.56***~~74.62~~ | ***1.70***~~1.13~~ | ***1.56***~~1.04~~ |
| ***Onsite Idling*** | ***0.20*** | ***0.89*** | ***1.17*** | ***0.00*** | ***0.00*** |
| Employees | 0.02 | 0.76 | 0.07 | 0.00 | 0.00 |
| Fugitive | 0.00 | 0.00 | 0.00 | 3.30 | 0.75 |
| **Project Maximum Daily** | **5.*90*~~5~~** | **3*6.40*~~.24~~** | ***61.19*~~4.00~~** | ***10.55*~~.40~~** | ***3.32*~~.80~~** |
| SCAQMD Daily Threshold | 75.00 | 550.00 | 100.00 | 150.00 | 55.00 |
| **Exceeds Threshold?** | No | No | No | No | No |

* ***Reservoir management activities will use only disposal trucks that meet EPA's emission standards for Model Year 2010 ~~2007~~ or later and Tier 3 or higher equipment.***

91 In the 20th paragraph of AIR QUALITY-2, the following clarifications have been made:

Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal phase~~; however, while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ~~Therefore, this impact remains significant and unavoidable.~~

92 In the 5th paragraph of AIR QUALITY-3, the following clarifications have been made:

The analysis in Air Quality-2 demonstrated that during sediment removal, the significance threshold would not be exceeded for emissions of particulate matter and CO; and no significance threshold would be exceeded during reservoir management under either option. ~~Nevertheless, while every effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce the $NO_X$ emissions to a level of less than significant. Therefore, this impact remains significant and unavoidable.~~ ***Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of $NO_X$ emissions and will reduce the $NO_X$ emissions to a level of less than significant for the sediment removal phase.***

92 In the 7th paragraph of AIR QUALITY-3, the following clarifications have been made:

Implementation of Mitigation Measures MM AQ-1 and MMAQ-2 would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal phase~~; however, while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ~~Therefore, this impact remains significant and unavoidable.~~

96 In the 1st paragraph under AIR QUALITY-6, the following clarifications have been made:

The Proposed Project would generate air pollutant emissions from construction over a five-year period. Cumulative projects that could contribute to cumulative air quality impacts would be the cumulative projects that could be under construction during the same time period (Hahamongna Watershed Park MBMU Project, Metro Gold Line Foothill Extension, Arroyo Seco Canyon Project, and Devil's Gate Water Conservation Project). Each of the cumulative projects would have construction emissions contributing to existing air quality violations. All projects would be required to comply with the SCAQMD's air pollution control measures and rules. Implementation of these measures would reduce air emissions ~~As discussed above, the Proposed Project emissions of VOC, $PM_{10}$, and $PM_{2.5}$ are not expected to result in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment with the exception of $NO_X$ emissions which may remain significant for sediment removal activity. While every effort will be made to strive for the newest vehicles/equipment, the actual Proposed Project vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ~~Therefore, the Proposed Project's contribution to cumulative impacts associated with $NO_X$ emissions remains significant and unavoidable.~~

96 In the 3rd paragraph of AIR QUALITY-6, the following clarifications have been made:

Implementation of these mitigations would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal ~~p~~hase; ~~however, while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ~~Therefore, this impact remains significant and unavoidable.~~

**Section 3.6 Biological Resources**

**Page Clarification/Revision**

97 In the 1st paragraph under Vegetation, the following clarifications have been made:

At the time of the 2010 survey (Chambers Group 2010a), the Proposed Project site was primarily composed of riparian and upland communities (see Figure 3.6-1: Devil's Gate Vegetation Communities (2010)). The Proposed Project site was resurveyed in 2013

# Section 8.0 CLARIFICATIONS AND MODIFICATIONS

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- ***The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD.***

133 In the 2nd paragraph under BIOLOGY-2, the following clarifications have been made:

The Proposed Project would impact approximately 51.4 acres of Riparian Woodland and ***11.1*** ~~9.3~~ acres of ~~Mule Fat Scrub~~ ***Mule Fat Thickets*** within the Proposed Project site. Riparian Woodland and ~~Mule Fat Scrub~~ ***Mule Fat Thickets*** are rare plant communities and provide nesting habitat for riparian species; impacts to these habitats would result in a significant impact. To minimize impacts due to the loss of Riparian Woodland and ***Mule Fat Thickets*** ~~Mule Fat Scrub~~, Mitigation Measures MM BIO-7 and MM BIO-8 have been provided.

134 In Table 3.6-4, the following clarifications have been made:

**TABLE 3.6-4: JURISDICTIONAL ACREAGE MATRIX**

| Authority | Jurisdictional Area (acre or sq. ft.) | | Total Jurisdiction (acres) |
|---|---|---|---|
| **USACE** | ~~Riparian Area outside Wetland Area~~* | ~~54.33~~* | ~~101.13~~*<br>46.80 |
| | Wetland Area | 11.2 | |
| | Drainage Impacts | 35.6 | |
| | *Main channel* | *6.7* | |
| | *Braided channel* | *28.9* | |
| | | | |
| **RWQCB** | ~~Riparian Area Outside Wetland Area~~*<br>~~*Mule Fat Thickets*~~*<br>~~*Riparian Woodland*~~* | ~~2,366,614.8 (sq. ft.)~~*<br>~~406,414.8 (sq. ft.)~~*<br>~~1,960,200 (sq. ft.)~~* | ~~4,405,222.8 (sq. ft.)~~*<br>2,038,608 (sq. ft.)<br>(46.80 ac) |
| | Wetland Area | 487,872 (sq. ft.) (11.2 ac) | |
| | Drainage Impacts | 1,550,736 (sq. ft.) (35.6 ac) | |
| | *Main channel* | 291,852 (sq. ft.) (6.7 ac) | |
| | *Braided channel* | 1,258,884 (sq. ft.) (28.9 ac) | |
| | | | |
| **CDFW** | Riparian Area Outside Wetland Area | 54.43 | 101.13 |
| | *Mule Fat Thickets* | *9.33* | |
| | *Riparian Woodland* | *45.0* | |
| | Wetland Area | 11.2 | |
| | Drainage Impacts | 35.6 | |
| | *Main channel* | *6.7* | |
| | *Braided channel* | *28.9* | |

*Riparian areas located outside of the OHWM are not considered jurisdictional by USACE or RWQCB (USACE 1987, USACE 2008, California Water Code 1996). The total impacts to USACE and RWQCB jurisdiction has been corrected.

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135 In MM BIO-8, the following clarifications have been made:

> **MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. ***Non-native, weedy*** ~~Ruderal~~ habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:
>
> - Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).
> - Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
> - Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.
> - Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
>   - Site-specific container plant and seed palettes,
>   - Irrigation plan,
>   - Nonnative and invasive plant species removal,
>   - Maintenance and monitoring schedule,
>   - Qualitative and quantitative monitoring methodologies,
>   - Selection criteria of reference sites,
>   - Performance standards of the mitigation sites,
>   - Monitoring reports and annual reports schedule,
>   - Mitigation long-term management plan, and
>   - Funding description for implementation and long-term management.

- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
    - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
    - Add soil amendments if problem soils may be inhibiting plant growth,
    - Replant if plant survival is low or to increase plant species cover or diversity,
    - Install different plant species for plant species which are not surviving, and
    - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.
- Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards.

136 In the 1st paragraph under BIOLOGY-4, the following additions have been made:

The Proposed Project area is predominantly open for wildlife movement and habitat connectivity. Implementation of the Proposed Project would remove vegetation within the Proposed Project site that provides habitat where wildlife species may seek cover or foraging opportunities while moving through during migration or as they travel to or from different parts of their territories. Removal of the vegetation would also eliminate habitat that may be used by wildlife for nursery sites. The vegetation located outside of

the boundary of the Proposed Project would not be affected and would continue to provide cover and foraging opportunities and nursery sites for wildlife as they move through the area. ***Sediment removal ~~will~~ would not be continuous, as excavation is expected to occur only in the drier months (April to December, excluding holidays). In addition, sediment removal activities would not completely block the Proposed Project site from surrounding habitat~~,~~*** and, because the activities ***would*** only ***occur ~~only~~ during the day, ~~and~~*** they ***would not interfere with nighttime wildlife activity. Although some wildlife may be temporarily displaced*** from areas where equipment is operating ***during*** the ***construction*** associated with the initial sediment removal and during reservoir management, ***wildlife would not be physically prevented from moving around and into the basin area.*** After the sediment removal phase is completed and after the annual reservoir management activities are completed, equipment will no longer be operating and wildlife would be able to travel unimpeded through the Proposed Project site. With the Proposed Project, Option 2, the LACFCD would restore native riparian habitat and Riversidean Alluvial Fan Sage Scrub in the 29-acre area located between the boundary of the Reservoir Management Area and the upstream boundary of the Proposed Project site (see the descriptions above in BIOLOGY-2). LACFCD would implement habitat restoration and habitat enhancement at onsite and offsite locations to create additional cover, foraging, and nursery sites for wildlife as they move through during migration or as they travel to and from parts of their territories. The priority for determining mitigation site locations for unavoidable impacts would be onsite (for the Proposed Project, Option 2 and Alternatives), offsite within the Arroyo Seco watershed, and offsite within the greater Los Angeles River watershed. Sediment removal and reservoir management activities would remove vegetation used for cover, foraging, and nursery sites and interfere temporarily with the movement of native resident or migratory wildlife species, resulting in a significant impact. ~~Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a significant impact.~~ ***To minimize impacts to less than significant, Mitigation Measures MM BIO-1 through MM BIO-8 have been provided.***

**Section 3.7 Cultural Resources**

| **Page** | **Clarification/Revision** |
|---|---|
| 143 | In the 5th paragraph under City of Pasadena Comprehensive General Plan, the following revisions have been made:<br><br>Preservation of cultural resources and the City's historic character is a consistent theme throughout the Land Use ~~and Mobility~~ Element of the City of Pasadena Comprehensive General Plan. The values of the community are laid out in the General Plan's Seven Guiding Principles. Principle No. 2 emphasizes the community's fundamental commitment to preservation of its historic character:<br><br>The following policies of the Land Use ~~and Mobility~~ Element are related to the preservation of cultural resources: |

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resemble the mix of disturbed and vegetated areas found under existing conditions than with the Proposed Project.

433 In the 2nd paragraph under AIR QUALITY-1, the following clarifications have been made:

As with the Proposed Project (see Section 3.5.6), Alternative 3, Configuration D will be consistent with the second through fourth criteria but will not be consistent with the first criterion. This is due to emissions of $NO_X$ exceeding the Daily Regional Threshold during sediment removal, resulting in a potentially significant impact. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of Alternative 3, Configuration D's combined $NO_X$ emissions during sediment removal. ~~Implementation of these mitigation measures may not be feasible, however, while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions to a level of less than significant. Therefore, Alternative 3, Configuration D could result in a significant impact.~~ ***Therefore, impacts during sediment removal will be less than significant.*** This impact will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

433 In the 1st paragraph under Mitigation Measures, the following clarification has been made:

**MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use ***only*** sediment removal dump trucks that meet EPA's emission standards for Model Year ~~2007~~2010 ***or later*** ~~as reasonably feasible~~.

433 In the 1st paragraph under Residual Impacts After Mitigation, the following clarifications have been made:

Implementation of these mitigations would reduce the combined $NO_X$ emissions of Alternative 3, Configuration D during the sediment removal phase~~. While every effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program. ~~Therefore, this impact remains potentially significant and unavoidable.~~

434 In the 1st paragraph under AIR QUALITY-2, the following clarifications have been made:

As with the Proposed Project, under Alternative 3, Configuration D emissions of $NO_X$ exceed the Daily Regional Threshold during sediment removal, resulting in a potentially significant impact. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of the combined $NO_X$ emissions of Alternative 3, Configuration D during sediment removal. Implementation of these mitigations would reduce the Proposed Project's combined $NO_X$ emissions during the sediment removal phase~~; however, while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ~~Therefore, Alternative 3, Configuration D will result in a potentially significant impact.~~ This impact will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

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447 In the 7th paragraph under Mitigation Measures, the following details have been added:

**MM BIO – 5:** Within 30 days prior to commencement of vegetation or structure removal activities, a preconstruction bat survey shall be conducted by a qualified biologist for the presence of any roosting bats. ***Acoustic recognition technology shall be used if feasible and appropriate.*** If either a bat maternity roost or hibernacula (structures used by bats for hibernation) ***are*** present, a qualified biologist will develop and implement appropriate protection measures for that maternity roost or hibernacula. These protection measures shall include, as appropriate, safely evicting non-breeding bat hibernacula, establishment of avoidance buffers, or replacement of roosts at a suitable location. ***These measures shall also include as appropriate:***

- ***To the extent feasible, trees that have been identified as roosting sites shall be removed or relocated between October 1 and February 28.***
- ***When trees must be removed during the maternity season (March 1 to September 30), a qualified bat specialist shall conduct a preconstruction survey to identify those trees proposed for disturbance that could provide hibernacula or nursery colony roosting habitat for bats.***
- ***Trees identified as potentially supporting an active nursery roost shall be inspected by a qualified biologist no greater than 7 days prior to tree disturbance to determine presence or absence of roosting bats.***
- ***Trees determined to support active maternity roosts will be left in place until the end of the maternity season (September 30).***
- ***If bats are not detected in a tree, but the qualified biologist determines that roosting bats may still be present, trees shall be removed as follows:***
    - ***Pushing a tree down with heavy machinery instead of felling the tree with a chainsaw***
    - ***First pushing the tree lightly 2 to 3 times with a pause of 30 seconds between each nudge to allow bats to become active, then pushing the tree to the ground slowly***
    - ***Allowing the tree to remain in place for 24 to 48 hours until inspected by the qualified biologist for presence or absence of roosting bats***
- ***The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD.***

448 In the 1st paragraph under BIOLOGY-2, the following additions have been made:

Alternative 3, Configuration D***, Option 1 and Alternative 3 Configuration D, Option 2*** will impact approximately 0.4 acre of Riversidean Alluvial Fan Sage Scrub within the Proposed Project site. Impacts to Riversidean Alluvial Fan Sage Scrub will result in a potentially significant impact requiring mitigation; however, disturbance of this community will be reduced by approximately 0.7 acres (64 percent) as compared to the Proposed Project (Table 4.6-5). ~~To minimize~~

~~impacts due to~~ To compensate for the loss of Riversidean Alluvial Fan Sage Scrub, the LACFCD would restore and enhance Riversidean Alluvial Fan Sage Scrub habitat either onsite or offisite to achieve not less than a 1:1 replacement, or no net loss, of Riversdean Alluvial Fan Sage Scrub ~~Mitigation Measure~~ (MM BIO-6) ~~has been provided~~. ~~Removing the sediment will benefit the alluvial fan sage scrub since the habitat is currently buried under sediment and therefore considered poor quality~~. ~~With implementation of this mitigation measure, impacts to Riversidean Alluvial Fan Sage Scrub will be reduced to a level below significance.~~

448 In the 2nd paragraph under BIOLOGY-2, the following clarifications have been made:

***Alternative 3, Configuration D, Option 1*** will impact approximately 35.0 acres of riparian habitat (28.9 acres of Riparian Woodland and ~~4.3~~ ***6.1*** acres of ***Mule Fat Thickets***) ~~Mule Fat Scrub~~ ~~within the Proposed Project site~~***, while Alternative 3, Configuration D, Option 2 will impact approximately*** 32.6 acres of riparian habitat (***28.9 acres of Riparian Woodland and 3.7 acres of Mule Fat Thickets***). Riparian Woodland and ***Mule Fat Thickets*** ~~Mule Fat Scrub~~ are rare plant communities that provide nesting habitat for riparian species. Impacts to these habitats will result in a potentially significant impact; however, disturbance of Riparian Woodland and ***Mule Fat Thickets under Option 1*** ~~Mule Fat Scrub~~ will be reduced by approximately 22.5 acres (44 percent) and 5.0 acres (54 percent), respectively, as compared to the Proposed Project. ***In comparison, disturbance of Riparian Woodland and Mule Fat Thickets under Alternative 3, Configuration D, Option 2 will be reduced by approximately 22.5 acres (44 percent) and 7.4 acres (67 percent), respectively as compared to the Proposed Project.*** To compensate for ~~minimize impacts due to~~ the loss of riparian habitats (Riparian Woodland and ***Mule Fat Thickets***) ~~Mule Fat Scrub~~, the LACFCD would restore and enhance riparian habitats either onsite or offisite to achieve not less than a 1:1 replacement, or no net loss, of riparian habitats (Riparian Woodland and ***Mule Fat Thickets***) ~~Mitigation Measures~~ (MM BIO-7 and MM BIO-8). ~~have been provided~~. ~~With implementation of this mitigation measure, impacts to Riparian Woodland and ***Mule Fat Thickets*** Mule Fat Scrub will be reduced to a level below significance.~~

449 The title for Figure 4.6-12 has been revised:

**Figure 4.6-12: Alternative 3, Configuration D, *Option 1* Impacted Water Features**

450 The following Figure has been added:

***Figure 4.6-13: Alternative 3, Configuration D, Option 2 Impacted Water Features***

451 In the 3rd paragraph under BIOLOGY-2, the following additions have been made:

Figure 4.6-12: Alternative 3, Configuration D, ***Option 1*** Impacted Water Features ***and Figure 4.6-13: Alternative 3, Configuration D, Option 2*** show~~s~~ the boundaries of the areas and water features that will be impacted. CDFW jurisdiction includes the water features shown on these maps plus the habitat areas located outside of these features and within the boundaries of the alternatives. Alternative 3, Configuration D, Option 1 would impact approximately 75.5 acres of CDFW jurisdiction while Option 2 would impact approximately 70.8 acres of CDFW jurisdiction. Compared to the Proposed Project, Alternative 3, Configuration D***, Option 1 and Alternative 3, Configuration D, Option 2*** will reduce impacts to ~~these~~ CDFW jurisdiction, including the water features, by

approximately ~~19~~ 36 percent and 40 percent, respectively. To compensate for the ~~minimize~~ impacts to habitats within CDFW jurisdiction found within the~~se water features~~ boundaries of the two options for Alternative 3, Configuration D, the LACFCD would restore and enhance riparian habitats and other sensitive natural communities within onsite or offsite CDFW jurisdictional areas to achieve not less than a 1:1 replacement, or no net loss, of these habitats within CDFW jurisdictional areas ~~Mitigation Measure~~ (MM BIO-8).~~has been provided~~. ~~With implementation of this mitigation measure, impacts will be reduced to a level below significance~~

451 In MM BIO – 8, the following clarifications have been made:

**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. ***Non-native, weedy*** ~~Ruderal~~ habitats within

the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).
- Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
- Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:
    - Site-specific container plant and seed palettes,
    - Irrigation plan,
    - Nonnative and invasive plant species removal,
    - Maintenance and monitoring schedule,
    - Qualitative and quantitative monitoring methodologies,
    - Selection criteria of reference sites,
    - Performance standards of the mitigation sites,
    - Monitoring reports and annual reports schedule,
    - Mitigation long-term management plan, and
    - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1

replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.

- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
    - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
    - Add soil amendments if problem soils may be inhibiting plant growth,
    - Replant if plant survival is low or to increase plant species cover or diversity,
    - Install different plant species for plant species which are not surviving, and
    - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.
- Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards.

452 In the 1st paragraph under BIOLOGY-3, the following edits have been made:

***Figures 4.6-12 and 4.6-13*** above, show the water features that will be impacted by this alternative. Compared to the Proposed Project, Alternative 3, Configuration D will reduce impacts to these water features by approximately 19 percent. ~~To minimize impacts to jurisdictional waters found within these water features,~~As stated for the Proposed Project, the LACFCD will implement successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands to compensate for impacts associated with Alternative 3, Configuration D. The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Mitigation and Monitoring Plan (HMMP) that will outline the means and methods of successful establishment, reestablishment, rehabilitation, and enhancement of federally protected wetlands. The LACFCD will implement the HMMP and will monitor and apply adaptive management, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to federally-protected wetlands at

alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented by other agencies, federally protected wetlands can be successfully established, reestablished, rehabilitated, and enhanced. Successful establishment, reestablishment, rehabilitation, and enhancement of federally-protected wetlands would achieve not less than 1:1 replacement, or no net loss, of federally protected wetlands. Therefore, implementation of Mitigation Measure MM-BIO-8 ~~has been provided. With implementation of this mitigation measure, impacts will be reduced~~ would reduce impacts to federally protected wetlands to a level below significance. Based on the evidence cited above and the steps outlined in Mitigation Measure BIO-8 to ensure a successful replacement at a 1:1 ratio, neither a higher mitigation ratio nor other Mitigation Measures would be necessary to reduce impacts to below level of significance.

453 In the 1st paragraph under BIOLOGY-4, the following information has been added:

The Proposed Project area is predominantly open for wildlife movement and habitat connectivity. ***Sediment removal will not be continuous, as excavation is expected to occur only in the drier months (April to December, excluding holidays). In addition, sediment removal activities would not completely block the Proposed Project site from surrounding habitat, would occur only during the day, and would not interfere with nighttime wildlife activity. Although some wildlife may be temporarily displaced during construction, wildlife would not be physically prevented from moving around and into the basin area.*** Sediment removal and reservoir management activities associated with Alternative 3, Configuration D ~~will~~ would remove vegetation used for cover, foraging, and nursery sites and interfere temporarily with the movement of native resident or migratory wildlife species, resulting in a potentially significant impact. After the sediment removal phase is completed and after the annual reservoir management activities are completed, equipment will no longer be operating and wildlife would be able to travel unimpeded through the Proposed Project site. With Alternative 3, Configuration D, the LACFCD would restore and enhance riparian habitats (Riparian Woodland and Mule Fat Thickets), Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in the areas located outside of the boundary of the Reservoir Management Area and potentially at offsite areas to create additional cover, foraging, and nursery sites for wildlife as they move through during migration or as they travel to and from parts of their territories. ~~Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact.~~ The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of riparian and other sensitive habitats and thus provide additional cover and foraging opportunities, migratory habitat, and nursery sites for wildlife. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or with the use of native wildlife nursery sites at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other

projects, riparian and other sensitive habitats that support wildlife movement, wildlife migration, and wildlife nursery sites can be successfully restored and enhanced. Successful restoration and enhancement of the habitats that support wildlife movement, wildlife migration, and wildlife nursery sites would achieve not less than a 1:1 replacement, or no net loss, of wildlife habitat. Therefore, implementation of ~~***To minimize impacts to less than significant,***~~ ***Mitigation Measures MM BIO-1 through MM BIO-8*** ~~***has been provided***~~would reduce impacts to habitats supporting wildlife movement, wildlife migration, and wildlife nursery sites to a level below significance. This impact will be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and both reservoir management options.

458 In the 1st paragraph under GHG EMISSIONS-1, the following information has been added:

Alternative 3, Configuration D will use the same amount and type of construction equipment as the Proposed Project and involve the same number of truck trips on a daily basis for sediment removal and reservoir management; however, sediment removal under this Alternative is expected to have a shorter duration than the Proposed Project due to the reduced amount of sediment to be removed. ***Use of sediment removal dump trucks that meet EPA's emission standards for Model Year*** ~~***2007***~~ ***2010 or later and use of off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment, would result in a reduction of GHG emissions.*** As noted in Section 3.6, generation of greenhouse gas emissions under the Proposed Project is not "cumulatively considerable" and is therefore less than significant under CEQA. Alternative 3, Configuration D will have the same amount of daily equipment

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~~while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ***Therefore, impacts during sediment removal will be less than significant.*** ~~Therefore, Alternative 5, Haul Route Alternative could result in a potentially significant impact.~~ This impact will be similar in comparison to the Proposed Project due to the identical excavation area and associated sediment removal activities.

555 In the 1st paragraph under Mitigation Measures, the following clarification has been made:

**MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use ***only*** sediment removal dump trucks that meet EPA's emission standards for Model Year ~~2007~~2010 ***or later*** ~~as reasonably feasible~~.

555 In the 1st paragraph under Residual Impacts After Mitigation, the following clarifications have been made:

Implementation of these mitigations would reduce the Alternative 5, Haul Route Alternative's combined $NO_X$ emissions during the sediment removal phase~~; however, while every effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. These mitigations are enforceable through the Mitigation Monitoring and Reporting Program. ~~Therefore, this impact remains significant and unavoidable.~~

555 In the 1st paragraph under AIR QUALITY-2, the following clarifications have been made:

As with the Proposed Project, under Alternative 5, Haul Route Alternative emissions of $NO_X$ exceed the Daily Regional Threshold during sediment removal, resulting in a potentially significant impact. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of Alternative 5, Haul Route Alternative's combined $NO_X$ emissions during sediment removal~~; however, while every reasonable effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce emissions~~ to a level of less than significant. ~~Therefore, Alternative 5, Haul Route Alternative will result in a potentially significant impact.~~ This impact will be similar in comparison to the Proposed Project due to the identical excavation area and associated sediment removal activities.

556 In the 1st paragraph under Residual Impacts After Mitigation, the following clarifications have been made:

Sediment removal will not exceed any standard SCAQMD Regional Threshold except for combined $NO_X$ emissions. Implementation of these mitigations would reduce combined $NO_X$ emissions for Alternative 5, Haul Route Alternative during the sediment removal phase~~; however, while every effort will be made to strive for the newest vehicles/equipment, the actual vehicle/equipment fleet may not reach the levels required to reduce the $NO_x$ emissions~~ to a level of less than significant. ~~Therefore, this impact remains significant and unavoidable.~~

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563 In the 2nd paragraph under BIOLOGY-2, the following clarifications have been made:

This Alternative will impact the same amount of Riparian Woodland and ***Mule Fat Thickets*** ~~Mule Fat Scrub~~ as the Proposed Project. Riparian Woodland and ***Mule Fat Thickets*** ~~Mule Fat Scrub~~ are rare plant communities that provide nesting habitat for riparian species. Impacts to these habitats will result in a potentially significant impact. To minimize impacts due to the loss of Riparian Woodland and ***Mule Fat Thickets*** ~~Mule Fat Scrub~~, Mitigation Measures MM BIO-7 and MM BIO-8 have been provided. With implementation of these mitigation measures, impacts to Riparian Woodland and ***Mule Fat Thickets*** ~~Mule Fat Scrub~~ will be reduced to a level below significance.

564 In the 3rd paragraph under Mitigation Measures, the following clarification has been made:

**MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. ***Non-native, weedy*** ~~Ruderal~~ habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:

- Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).
- Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.
  Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.
- Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:

  - Site-specific container plant and seed palettes,
  - Irrigation plan,
  - Nonnative and invasive plant species removal,
  - Maintenance and monitoring schedule,
  - Qualitative and quantitative monitoring methodologies,
  - Selection criteria of reference sites,
  - Performance standards of the mitigation sites,
  - Monitoring reports and annual reports schedule,
  - Mitigation long-term management plan, and
  - Funding description for implementation and long-term management.
- Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.
- Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:
  - Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,
  - Add soil amendments if problem soils may be inhibiting plant growth,
  - Replant if plant survival is low or to increase plant species cover or diversity,
  - Install different plant species for plant species which are not surviving, and
  - Close trails or install barriers if human caused impacts are damaging the mitigation sites.
- Implement and monitor the required mitigation at alternative sites, chosen based on priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.
- Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.
- Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section

401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards.

566 In the 1st paragraph under BIOLOGY-4, the following information has been added:

The Proposed Project area is predominantly open for wildlife movement and habitat connectivity. ***Sediment removal will not be continuous, as excavation is expected to occur only in the drier months (April to December, excluding holidays). In addition, sediment removal activities would not completely block the Proposed Project site from surrounding habitat, would occur only during the day, and would not interfere with nighttime wildlife activity. Although some wildlife may be temporarily displaced during construction, wildlife would not be physically prevented from moving around and into the basin area.*** Sediment removal and reservoir management activities associated with Alternative 5, Haul Route Alternative ~~will~~ would remove vegetation used for cover, foraging, and nursery sites and interfere temporarily with the movement of native resident or migratory wildlife species, resulting in a potentially significant impact. Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact. After the sediment removal phase is completed and after the annual reservoir management activities are completed, equipment will no longer be operating and wildlife would be able to travel unimpeded through the Proposed Project site. With Alternative 3, Configuration D, the LACFCD would restore and enhance riparian habitats (Riparian Woodland and Mule Fat Thickets), Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub in the areas located outside of the boundary of the Reservoir Management Area and potentially at offsite areas to create additional cover, foraging, and nursery sites for wildlife as they move through during migration or as they travel to and from parts of their territories. ~~Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact.~~ The LACFCD, with the help of professional restoration ecologists, will develop a Habitat Restoration Plan that will outline the means and methods of successful restoration and enhancement of riparian and other sensitive habitats and thus provide additional cover and foraging opportunities, migratory habitat, and nursery sites for wildlife. The LACFCD will implement the Habitat Restoration Plan and will monitor and apply adaptive management measures, as necessary. If adaptive management measures are unsuccessful and the mitigation sites do not achieve the established performance standards, then the LACFCD will implement the mitigation for impacts to the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or with the use of native wildlife nursery sites at alternative sites and will monitor those sites until the established performance standards are achieved. Based on past successful mitigation implemented for other projects, riparian and other sensitive habitats that support wildlife movement, wildlife migration, and wildlife nursery sites can be successfully restored and enhanced. Successful restoration and enhancement of the habitats that support wildlife movement, wildlife migration, and wildlife nursery sites would achieve not less than a 1:1 replacement, or no net loss, of wildlife habitat. Therefore, implementation of ~~***To minimize impacts to less than significant,***~~ ***Mitigation Measures MM BIO-1 through MM BIO-8*** ~~***has been provided***~~would reduce impacts to habitats supporting wildlife movement, wildlife migration, and wildlife nursery sites to a

level below significance. This impact will be similar in comparison to the Proposed Project due to the similarities in area disturbed during sediment removal and reservoir management Option 1.

571 In the 1st paragraph under GHG EMISSIONS-1, the following information has been added:

Alternative 5, Haul Route Alternative will use the same amount and type of construction equipment as the Proposed Project. ***Use of sediment removal dump trucks that meet EPA's emission standards for Model Year ~~2007~~ 2010 or later and use of off-road equipment***

# Section 10.0 MITIGATION MONITORING AND REPORTING PROGRAM

**Pages 2054 – 2059**

## SECTION 10.0 – MITIGATION MONITORING AND REPORTING PROGRAM

Public Resources Code, Section 21081.6 (Assembly Bill 3180) requires that mitigation measures identified in environmental review documents prepared in accordance with California Environmental Quality Act (CEQA) are implemented after a project is approved. Therefore, this Mitigation Monitoring and Reporting Program (MMRP) has been prepared to ensure compliance with the adopted mitigation measures during the pre-sediment removal, sediment removal, and reservoir management phases of the Devil's Gate Sediment Removal and Management Project (Project).

LACFCD is the agency responsible for implementation of the mitigation measures identified in the EIR. This MMRP provides LACFCD with a convenient mechanism for quickly reviewing all the mitigation measures including the ability to focus on select information such as timing. LACDPW is carrying out the Project on behalf of LACFCD. The MMRP includes the following information for each mitigation measure:

- The phase of the project during which the required mitigation measure must be implemented;
- The phase of the project during which the required mitigation measure must be monitored;
- The enforcement agency; and
- The monitoring agency.

The MMRP includes a checklist to be used during the mitigation monitoring period. The checklist will verify the name of the monitor, the date of the monitoring activity, and any related remarks for each mitigation measure.

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Date** | **Remarks** |
| **AIR QUALITY** | | | | | | | |
| **MM AQ-1**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use only sediment removal dump trucks that meet the EPA's emission standards for Model Year 2010 ~~2007~~ or later. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **MM AQ-2**: LACFCD shall require all construction contractors during the sediment removal phase of the Proposed Project to use off-road equipment that meets, at a minimum, EPA's emission standards for Tier 3 equipment. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **BIOLOGICAL RESOURCES** | | | | | | | |
| **MM BIO – 1:** A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide measures and monitor for wildlife in harm's way. This includes initial ground- or vegetation-disturbing project-related activities at the annual start of each year of sediment removal or maintenance activities. Following initial project-related activities, a qualified monitoring biologist shall be present as necessary to maintain the implemented protection measures and monitor for additional species in harm's way. These protection measures shall include, as appropriate: redirecting wildlife, identifying areas that may require exclusionary devices (e.g., fencing), or capturing and relocating wildlife outside the work area. Any captured species shall be relocated to adjacent appropriate habitat that is contiguous to adjacent habitat and not impacted by project-related disturbance activities. | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **MM BIO – 2**: Within 90 days prior to ground-disturbing activities, a sensitive species educational briefing shall be conducted by a qualified biologist for construction personnel. The biologist will identify all sensitive resources that may be encountered onsite, and construction personnel will be instructed to avoid and report any sightings of sensitive species to LACFCD or the monitoring biologist. Educational briefings shall be repeated annually for the duration of the sediment removal. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **MM BIO – 3**: Within 90 days prior to ground-disturbing activities, a preconstruction survey shall be conducted by a qualified biologist for the presence of any sensitive species in harm's way, including coast range newt, the southwestern pond turtle, and the two-striped garter snake. If sensitive species are observed in harm's way, the qualified biologist will develop and implement appropriate protection measures for that species. These protection measures shall include, as appropriate: redirecting the species, constructing exclusionary devices (e.g., fencing), or capturing and relocating wildlife outside the work area. Preconstruction surveys shall be repeated annually for the duration of the sediment removal. Observations of special status species made during these surveys shall be recorded onto a CNDDB field data sheet and submitted to CDFW for inclusion into the CNDDB. | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br><br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Date** | **Remarks** |
| **MM BIO – 4**: LACFCD, in consultation with a qualified biologist, will employ bird exclusionary measures (e.g., mylar flagging) prior to the start of bird breeding season to prevent birds nesting within established boundaries of the project.<br>Prior to commencement of sediment removal activities within bird breeding season (March 1-August 31), a preconstruction bird nesting survey shall be conducted by a qualified biologist for the presence of any nesting bird within 300 feet of the construction work area. The surveys shall be conducted 30 days prior to the disturbance of suitable nesting habitat by a qualified biologist with experience in conducting nesting bird surveys. The surveys shall continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work. Preconstruction surveys shall be repeated annually for the duration of the sediment removal.<br><br>If an active nest is found, the qualified biologist will develop and implement appropriate protection measures for that nest. These protection measures shall include, as appropriate, construction of exclusionary devices (e.g., netting) or avoidance buffers. The biologist shall have the discretion to adjust the buffer area as appropriate based on the proposed construction activity, the bird species involved, and the status of the nest and nesting activity; but shall be no less than 30 feet. Work in the buffer area can resume once the nest is determined to be inactive by the monitoring biologist. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Date** | **Remarks** |
| **MM BIO – 5**: Within 30 days prior to commencement of vegetation or structure removal activities, a preconstruction bat survey shall be conducted by a qualified biologist for the presence of any roosting bats. Acoustic recognition technology shall be used if feasible and appropriate. If either a bat maternity roost or hibernacula (structures used by bats for hibernation) are present, a qualified biologist will develop and implement appropriate protection measures for that maternity roost or hibernacula. These protection measures shall include, as appropriate: safely evicting non-breeding bat hibernacula, establishment of avoidance buffers, or replacement of roosts at a suitable location. These measures shall also include as appropriate:<br>• To the extent feasible, trees that have been identified as roosting sites shall be removed or relocated between October 1 and February 28.<br>• When trees must be removed during the maternity roost season (March 1 to September 30), a qualified bat specialist shall conduct a preconstruction survey to identify those trees proposed for disturbance that could provide hibernacula or nursery colony roosting habitat for bats.<br>• Trees identified as potentially supporting an active nursery roost shall be inspected by a qualified biologist no greater than 7 days prior to tree disturbance to determine presence or absence of roosting bats.<br>• Trees determined to support active maternity roosts will be left in place until the end of the maternity season (September 30).<br>• If bats are not detected in a tree, but the qualified biologist determined that roosting bats may still be present, trees shall be removed as follows:<br>o Pushing the tree down with heavy machinery instead of felling the tree with a chainsaw<br>o First pushing the tree lightly 2 to 3 times with a pause of 30 seconds in between each nudge to allow bats to become active, and then pushing the tree to the ground slowly.<br>o Allowing the tree to remain in place for 24 to 48 hours until inspected by the qualified biologist for presence or absence of roosting bats.<br>• The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **MM BIO – 6:** Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of this sensitive habitat. Measures to achieve not less than a 1:1 replacement, or no net loss, of Riversidean Alluvial Fan Sage Scrub shall include but not be limited to the following:<br>• Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreage of Riversidean Alluvial Fan Sage Scrub.<br>• Identify and map the selected mitigation ~~A~~areas where Riversidean Alluvial Fan Sage Scrub will be enhanced or restored ~~shall be mapped~~ using aerial photographs. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles | Reservoir Management<br>• Prepare Habitat Restoration Plan<br>• Identify/Map Mitigation Sites<br>• Install Plant Materials<br>• Monitor Installation<br>• Install Irrigation, if Necessary<br>• Prepare As-Built Report<br>• Conduct Maintenance<br>• Prepare Monitoring Reports | Reservoir Management<br>• Identify Reference Sites<br>• Conduct Qualitative and Quantitative Monitoring<br>• Conduct Maintenance<br>• Implement Adaptive Management Measures, if Necessary<br>• Prepare Monitoring Reports<br>• Prepare Annual Reports<br>• Achieve Mitigation Site Sign-Off | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Date** | **Remarks** |
| River watershed.<br>• Select offsite reference sites where Riversidean Alluvial Fan Sage Scrub is the established plant community. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, and native plant species richness (number of different plant species).<br>• Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:<br>o Site-specific container plant (if applicable) and seed palettes,<br>o Irrigation plan,<br>o Nonnative and invasive plant species removal,<br>o Maintenance and monitoring schedule,<br>o Qualitative and quantitative monitoring methodologies,<br>o Selection criteria of reference sites,<br>o Performance standards of the mitigation sites,<br>o Monitoring reports and annual reports schedule,<br>o Mitigation long-term management plan, and<br>o Funding description for implementation and long-term management.<br>• Prepare an as-built plan after the installation of the plant and seed materials has been completed to document the acreage of each restored or enhanced plant community on the mitigation sites and to show that not less than a 1:1 replacement of sensitive habitats has been achieved.<br>• Quantitatively monitor the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of Riversidean Alluvial Fan Sage Scrub has been achieved.<br>• Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress toward achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:<br>o Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,<br>o Add soil amendments if problem soils may be inhibiting plant growth,<br>o Replant if plant survival is low or to increase plant species cover or diversity,<br>o Install different plant species for plant species which are not surviving, and | | | | | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Date** | **Remarks** |
| o Close trails or install barriers if human caused impacts are damaging the mitigation sites.<br>• Implement and monitor the required mitigation at alternative sites, chosen based on same priority methodology, if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.<br>• Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites. | | | | | | | |
| **MM BIO – 7:** Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint to identify native city-protected trees that would ~~will~~ be removed or potentially affected by the Proposed Project, ~~and~~ native city-protected trees that can be avoided, and native city-protected trees that will require root zone protection. LACFCD would ~~will~~ replace native city-protected trees that cannot be avoided. The replacement is expected to be at a ~~up to~~ 1:1 ratio by canopy acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads. The acreage occupied by the canopies of the native city-protected trees to be removed will determine the appropriate level of tree replacement. LACFCD shall identify tree replacement areas that are no less than the acreage of the native city-protected tree canopies to be removed. Priority for tree replacement locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed. The number of replacement trees installed by LACFCD will be greater than the number of trees to be removed should the replacement tree be smaller and younger than the tree to be removed. LACFCD shall monitor the survival of the replacement trees for 5 years and replace those that do not survive within the monitoring period, ensuring that not less than 1:1 ratio of replacement, or no net loss, has been achieved. | Pre-Sediment Removal; Sediment Removal; Reservoir Management<br>• Conduct Tree Survey<br>• Identify and Protect Oak Tree Root Zones<br>• Identify/Map Mitigation Sites<br>• Prepare Habitat Restoration Plan<br>• Install Plant Materials<br>• Monitor Installation<br>• Install Irrigation, if Necessary<br>• Prepare As-Built Report<br>• Conduct Maintenance<br>• Prepare Monitoring Reports | Pre-Sediment Removal; Sediment Removal; Reservoir Management<br>• Identify Reference Sites<br>• Conduct Qualitative and Quantitative Monitoring<br>• Conduct Maintenance<br>• Implement Adaptive Management Measures, if Necessary<br>• Prepare Monitoring Reports<br>• Prepare Annual Reports<br>• Achieve Mitigation Site Sign-Off | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance**<br>**Initial** | **Mitigation Measure**<br>**Date** | **Implementation Phase***<br>**Remarks** |
| **MM BIO – 8:** A combination of onsite and offsite habitat restoration, enhancement, and exotic plant removal shall be implemented by LACFCD at a 1:1 ratio for impacted riparian habitat, sensitive natural communities, ~~habitat~~ and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic plant species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. LACFCD, with the help of professional restoration ecologists, will develop the means and methods of successful restoration and enhancement of riparian habitat, sensitive natural communities, and jurisdictional waters. Measures to achieve not less than a 1:1 replacement, or no net loss, of riparian habitat, sensitive natural communities, and jurisdictional waters shall include but not be limited to the following:<br><br>• Conduct a vegetation survey within the impact area prior to commencement of vegetation removal activities to verify the impact acreages of riparian habitat (Riparian Woodland and Mule Fat Thickets), sensitive natural communities (Coastal Sage Scrub), and jurisdictional waters (federally protected wetlands).<br>• Identify and map the selected mitigation areas where riparian habitat, sensitive natural communities, and federally protected wetlands will be enhanced or restored. Priority for mitigation site locations shall be onsite, offsite within Arroyo Seco subwatershed, and offsite within the greater Los Angeles River watershed.<br>• Select offsite reference sites where riparian habitats (Riparian Woodland and Mule Fat Thickets) and sensitive natural communities (coastal sage scrub) are the established plant communities and where federally protected wetlands are present. The reference sites will be used to establish the necessary performance standards to which the mitigation site will be measured. Performance standard parameters will include percent cover of native plant species, percent cover of nonnative and invasive plant species, native plant species richness (number of different plant species), structural patch richness, and wildlife use.<br>• Prepare and implement a site-specific Habitat Restoration Plan that will result in the successful restoration and enhancement at the selected mitigation sites. The Habitat Restoration Plan, at a minimum, shall include guidelines and specifications for the following:<br>o Site-specific container plant and seed palettes,<br>o Irrigation plan,<br>o Nonnative and invasive plant species removal,<br>o Maintenance and monitoring schedule,<br>o Qualitative and quantitative monitoring methodologies,<br>o Selection criteria of reference sites,<br>o Performance standards of the mitigation sites,<br>o Monitoring reports and annual reports schedule,<br>o Mitigation long-term management plan, and<br>o Funding description for implementation and long-term management.<br>• Prepare an as-built plan after the installation of the plant and seed materials has | Reservoir Management<br><br>• Prepare Habitat Restoration Plan<br>• Identify/Map Mitigation Sites<br>• Install Plant Materials<br>• Monitor Installation<br>• Install Irrigation, if Necessary<br>• Prepare As-Built Report<br>• Conduct Maintenance<br>• Prepare Monitoring Reports | Reservoir Management<br><br>• Identify Reference Sites<br>• Conduct Qualitative and Quantitative Monitoring<br>• Conduct Maintenance<br>• Implement Adaptive Management Measures, if Necessary<br>• Prepare Monitoring Reports<br>• Prepare Annual Reports<br>• Achieve Mitigation Site Sign-Off | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Date** | **Remarks** |
| been completed to document the acreage of each restored or enhanced plant community on the mitigation sites to show that the sites contain not less than a 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.<br>• Quantitatively ~~This mitigation measure shall be~~ monitor~~ed for success for five years following implementation~~ the mitigation sites until the performance standards have been met and restoration and enhancement of not less than 1:1 replacement of riparian habitats, sensitive natural communities, and federally protected wetlands has been achieved.<br>• Implement adaptive management measures if, during monitoring, the mitigation sites do not demonstrate measurable progress achieving the necessary performance standards or if unforeseen circumstances damage the mitigation sites. Adaptive management measures will include but not be limited to:<br>o Correctively re-grade areas if hydrologic or other conditions negatively affect the mitigation sites,<br>o Add soil amendments if problem soils may be inhibiting plant growth,<br>o Replant if plant survival is low or to increase plant species cover or diversity,<br>o Install different plant species for plant species which are not surviving, and<br>o Close trails or install barriers if human caused impacts are damaging the mitigation sites.<br>• Implement and monitor the required mitigation at alternative sites if the mitigation sites do not achieve the performance standards after the implementation of adaptive management measures. LACFCD shall conduct qualitative and annual quantitative monitoring and prepare annual monitoring reports until the established performance standards are achieved.<br>• Ensure the allocation and encumbrance of the funding necessary to implement the Habitat Restoration Plan, adaptive management measures, alternative mitigation sites (if necessary), and long-term management and protection of the mitigation sites.<br>• Submit a ~~A~~ report of the monitoring results ~~shall be submitted~~ annually~~, during the five years~~ following implementation of the restoration and enhancement activities at the mitigation sites, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement until the mitigation sites have met the performance standards. | | | | | | | |
| **CULTURAL RESOURCES** | | | | | | | |
| **MM CUL-1**: If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native sediments, these activities will be monitored by a qualified archaeologist. In the event this occurs and historic or archaeological materials are observed, the excavation in the proximity of the | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance** | | |
| | | | | | **Initial** | **Initial** | **Initial** |
| discovery should be diverted until a qualified archaeologist and/or paleontologist evaluates the discovery. | Reservoir Management | | | | | | |
| **MM CUL-2:** If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native sediments, these activities will be monitored by a qualified paleontologist. In the event that this occurs and paleontological materials are observed, the excavation in the proximity of the discovery should be diverted until a qualified paleontologist evaluates the discovery. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **MM CUL-3**: In the event human remains are discovered, all work in the area must be halted until the County Coroner identifies the remains and makes recommendations regarding their appropriate treatment pursuant to PRC Section 5097.98. | Final Plans and Specifications; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **LAND USE AND PLANNING** | | | | | | | |
| **MM LAN-1**: Temporary impacts to designated recreational facilities and trails shall be minimized through advance communication and redirection to the nearest facility in the vicinity of the Proposed Project. Prior to completion of final plans and specifications, the LACFCD shall review the plans and specifications to ensure that they contain proper language requiring that signs be posted at the nearby parking lots and trailheads at least one month in advance of sediment removal activities. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Pre-Sediment Removal; Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |
| **NOISE/VIBRATION** | | | | | | | |
| **MM N-1:** The LACFCD shall restrict the operation of any off-road construction equipment that is powered by a greater than 200-horsepower engine from operating within 180 feet of any offsite residential structure. Equipment that is not performing any earth-moving activities and is solely operating for entering or leaving the site via the access roads to the reservoir is exempted from this requirement. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Less than significant | | | |

| MITIGATION MONITORING AND REPORTING PROGRAM<br>Devil's Gate Reservoir Sediment Removal and Management Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Measure** | **Implementation Phase*** | **Monitoring Phase*** | **Enforcement Agency** | **Level of Significance After Mitigation** | **Verification of Compliance Initial** | **Mitigation Measure Date** | **Implementation Phase* Remarks** |
| **TRANSPORTATION/TRAFFIC** | | | | | | | |
| **MM TRA-1**: Proposed Project haul trucks will not deliver to the Vulcan Material Reliance Facility during the PM peak period. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Implementation of mitigation measures would reduce impacts but not to a level of less than significant | | | |
| **MM TRA-2**: Proposed Project haul trucks will not deliver to the Boulevard Pit during the PM peak period. | Final Plans and Specifications; Pre-Sediment Removal; Sediment Removal; Reservoir Management | Sediment Removal; Reservoir Management | Los Angeles County Flood Control District | Implementation of mitigation measures would reduce impacts but not to a level of less than significant | | | |

*The Implementation and Monitoring phases are broken down into four categories: Final Plans and Specifications; Pre- Sediment Removal; Sediment Removal; and Reservoir Management. "Final Plans and Specifications" indicates that the mitigation measure must be incorporated into the final approved design, plans, and specifications for the project. "Pre- Sediment Removal" refers to measures that are required prior to the start of the sediment removal phase. "Sediment Removal" refers to all aspects of the Sediment Removal phase. "Reservoir Management" refers to all aspects of the Reservoir Management phase.

# Appendix L – Devils Gate CEQA Mitigation Site Comparison

# Appendix L - Compensatory Mitigation Projects Permitted Under Clean Water Act Section 401 with Mitigation Ratios of One to One

| ID | Year | Region | Water (Location) | Applicant | Activities Conducted | 401 | | 404 | | CDFW | | USFWS | | Mitigation Plan | | Total Impacts | Impacts | | Total Required Mitigation | UCLA Discrepancy Study Results | | | 1600 Permit | 404 Permit | 401 Permit | Vegetation/Habitat Type | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Impact | Mitigation | Impact | Mitigation | Impact | Mitigation | Impact | Mitigation | Impact | Mitigation | | Perm | Temp | | Impacted | Required | Obtained | | | | Impacted | Mitigation |
| 2219 | 2001 | 5R | Sacramento River (Chico) | M & T Ranch, Llano Seco Ranch, and City of Chico | Gravel bar excavation on the Sacramento River | 0.100 | 2.000 | 0.022 | 0.022 | NS | NS | 2.000 | 2.000 | 2.000 | 2.000 | 2.022 | 2.000 | 0.022 | 2.022 | 2.022 | 2.022 | 2.022 | R2-2001-266 | 200100538 | | 2.00 acres newly established unspecified riparian vegetation permanently impacted and 0.022 acres of streambed temporarily impacted | Restoration of 2.022 acres of degraded riparian habitat through the removal of non-natives (Himalayan blackberry and fig trees), unspecified willow spp. planted |
| 2456 | 2001 | 5S | Miners Ravine Creek (Roseville) | City of Roseville | Sculpture Park for the Harding Boulevard Bikeway project - construction of a bikeway | | | | | | | | | | | 0.150 | 0.150 | 0.000 | 0.150 | | | | II-68-00 | 200000279 | | Permanent impacts to 0.03 acres riparian habitat, 0.07 acres riparian scrub (wetland), 0.05 acres seasonal wetland | Purchase of 0.08 acres of credits of seasonal wetland and 0.07 acres of credits of riparian scrub wetland purchased from a Mitigation Bank |
| 2974 | 1999 | 9 | Rattlesnake Creek (Poway) | Eastvale Development, Barrarr American | Existing earthen berm ephemeral stream crossing was widened and paved to provide reliable access for a residential development | ND | ND | 0.150 | 0.150 | ND | ND | 0.150 | 0.150 | ND | ND | 0.150 | 0.000 | 0.150 | 0.150 | 0.150 | 0.150 | 0.220 | | 199915878-MAT | | Permanent impacts to 0.15 acres total, including 0.133 acres of wetlands WOUS supporting black willow, arroyo willow, and other shrub and herb obligate plants; 0.017 acres of non-wetland WOUS unvegetated streambed | Restoration of 0.15 acres of wetland habitat. The mitigation site was 0.22 acres in size and consisted of a 70% shrub layer dominated by mulefat and 30 % tree layer dominated by arroyo willow and cottonwood trees. |
| 3472 | 1999 | 5F | Dog Creek (Clovis) | Clovis Unified School District | Dog Creek relocation - widening of Leonard Avenue required relocation of Dog Creek | 0.390 | 0.330 | 0.390 | 0.390 | ND | ND | NA | NA | 0.390 | 0.390 | 0.390 | 0.000 | 0.390 | 0.390 | 0.390 | 0.390 | 0.390 | | 199900342 | | 0.32 acres of wetland WOUS, 0.07 acres non-wetland WOUS supporting curly dock, Hyssop's loosestrife, salt grass, cattails, spike rush, soft rush, and water cress. Surrounding areas contained non-native, disturbed habitat. | Creation of 0.39 acres of jurisdictional waters, including 0.32 acres of wetlands in the relocated channel. 80% wetlands and 80% streambed open water dominated by cattails, smartweeds, and grasses. |
| 4206 | 1992 (401) 1993 (404) | 4 | Piru Creek (Angeles National Forest) | Caltrans | Rehabilitation of south abutment of old Route 99 bridge, included creek diversion | 1.700 | NS | 1.500 | 1.500 | NS | NS | NA | NA | 1.500 | 1.500 | 1.500 | 0.000 | 1.500 | 1.500 | 1.500 | 1.500 | 1.500 | | 19930017800 | | 1.50 acres of impacts, including 0.40 acres of wetland habitat. Creek diversion temporarily impacted 0.99 acres of jurisdiction. Also, 0.51 acres were temporarily disturbed by construction. Low quality riparian with cottonwood, willow, mulefat | replace/enhance disturbance area with cottonwood, arroyo willow, red willow, and mulefat |
| 4580 | 1993 (401) 1994 (404) | 8 | Cajalco Canyon Creek | Western Municipal Water District, Corona | Emergency repair to a leak in a 27-inch diameter water main | NS | NS | NS | NS | ND | ND | NA | NA | ND | ND | 0.600 | 0.000 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | | 19930125500-Stein | | Temporary impact to 0.60 acres of WOUS. | Enhancement of 0.48 acres of wetland WOUS and 0.12 acres of non-wetland WOUS. Herb layer of curly dock and salt heliotrope, bulrush. Coyote bush and California sagebrush (20% of area) and arroyo willows (70% of area) |
| 5217 | 1994 (401 & 404) | 3 | San Roque Creek (Santa Barbara) | Penfield & Smith, Santa Barbara | Hitchcock Ranch Construction Project- diversion of potential 100-year flood flows in San Roque Creek away from a residential development. Excavation of the channel bottom and construction of multiple project components | 1.000 | 1.000 | NS | NS | NS | 1.000 | NA | NA | ND | ND | 1.500 | 0.000 | 1.500 | 1.500 | 1.500 | 1.500 | 1.500 | 5-093-94 | 945-0829-00-AEM | | Temporary impacts to 1.5 acres jurisdictional streambed WOUS including unspecified vegetation. The area downstream is dominated by English ivy, poison oak, and nasturtiumand the upstream area is dominated by eucalyptus, black walnut, and German ivy. | Enhance 1.5 acres of jurisdictional streambed through revegetation of installed gabion walls. Revegetation area eroded and installed vegetation is not specified. |
| 5747 | 1995 (401 & 404) | 8 | | March Air Force Base | Landfill Stabilization | 1.000 | 1.000 | 0.010 | NS | 1.000 | 1.000 | NA | NA | ND | ND | 0.300 | 0.000 | 0.300 | 0.600 | 0.300 | 0.600 | 0.690 | | 9500086ES | | | |
| 6280 | 1995 (401) 1996 (404) | 4 | | Ventura County Watershed Protection District, Ojai | McDonald Canyon Detention Basin, construction of an earthen debris dam, grouted rock rip rap barrier, and diversion channel | 0.200 | 0.100 | 0.200 | 0.200 | 0.190 | 0.200 | NA | NA | 0.090 | 0.100 | 0.190 | 0.090 | 0.100 | 0.190 | 0.190 | 0.200 | 0.190 | 5-516-94 | 199560047TS | NA | 0.09 acres of permanent impact and 0.10 acres of temporary impact to willow riparian and streambed habitat | Temporary impacts to WOUS were revegetated onsite. Mitigation for permanent impacts to 0.09 acres was created downstream of dam. Consisted of sycamores, cottonwoods, oaks, and coyote bush. |
| 6389 | 1995 (401 & 404) | 4 | Arroyo Las Posas | County of Ventura Public Works Agency | Flood control improvements to a stretch of Arroyo Las Posas to reduce sedimentation in Lower Calleguas Creek and Mugu Lagoon | 12.900 | 6.100 | NS | NS | 7.100 | 7.100 | NA | NA | 12.900 | 6.100 | 12.900 | 7.100 | 5.800 | 2.400 | 12.900 | 6.100 | 2.400 | 5-174-94 | 199550372MSJ | | Permanent impacts to 7.1 acres and temporary impacts to 5.8 acres of non-wetland WOUS | Removal of exotic plants from 4.9 acres of riparian woodland habitat and planting of willow cuttings over 1.2 acres at the toe of each bank in the project area.Half of the 2.4-acre mitigation site was considered an enhancement by planting willow cuttings and half was enhancement through arundo removal. |
| 7059 | 1997 (401) 1999 (404) | 3 | Los Berros Creek (San Luis Obispo) | San Luis Obispo County, Nipomo | Bridge replacement over Los Berros Road Creek - bridge replacement and stabilization of downstream slope of small stream canyon | 0.000 | 0.000 | NS | NS | ND | ND | 0.100 | 0.100 | 0.520 | 0.520 | 0.100 | | 0.100 | 0.100 | 0.100 | 0.100 | 0.100 | | 97-5031300-TW | | Temporary impacts to 0.1 acres non-wetland WOUS | 0.1 acres enhancement mitigation via revegetation of disturbed slopes. 20% short-herb layer dominated by mugwort, 5% tall-herb layer dominated by seet fennel, 80% shrub layser dominated by California native blackberry, 80% tree layer dominated by sycamore and arroyo willow trees. |
| 7497 | 1997 | 8 | San Diego Creek (Irvine) | Irvine Ranch Water District | Reconfiguration of 12 duck ponds into five larger habitat ponds | 14.600 | 14.600 | NS | NS | ND | ND | ND | ND | NS | 16.800 | 14.600 | 14.600 | 0.000 | 14.600 | 14.600 | 14.600 | 14.600 | 5-068-97 | 19970005700-MFS | | Permanent impacts to 1.0 acre unspecified woody riparian, 11.60 acres unspecified herbaceous wetland, 2.0 acres ruderal wetland habitat. An additional 61.50 acres of ponds (non-jurisdictional) were also impacted | Create 11.10 acres of wetlands and 2.50 acres of non-streambed open water, and 1.0 acre of riparian habitat. Habitat dominated by black willows, cottonwoods, sycamores, mulefat, sagebrush, bulrush, mugwort, and phacelia. |
| 7640 | 1997 | 9 | Viejas Creek (Alpine) | San Diego County Department of Public Works | Seismic retrofit of Willows Road Bridge | ND | ND | 0.120 | 0.120 | ND | ND | 0.660 | NA | 0.360 | 0.360 | 0.120 | 0.000 | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 | | 19972010000 Ledford | | Temporary impacts to 0.12 acres of jurisdictional waters and 0.66 acres of CDFW jurisdictional "waters." Impacts to southern riparian scrub and unvegetated stream and bank habitat | Recontouring of stream to its original condition. Removal of non-native vegetation and revegetate onsite with willows and native understory in a 0.12 acre area. Dominant vegetation includes red willow, coast live oak, blackberry, greater periwinkle, nettle, and watercress. |
| 7902 | 1998 | 2 | Arroyo de Laguna (Pleasanton) | Zone 7 Water Agency, Pleasanton | Arroyo de la Laguna dredging - removal of 24,000 cubic yards of silt from 1700 feet of creek. Prior desilting of the reach was done in 1972 | NS | NS | NA | NA | ND | ND | NS | NS | 5.300 | 5.300 | 5.300 | 0.000 | 5.300 | 5.300 | 5.300 | 5.300 | 5.300 | | 23160S | File no. 2198.11, Site No. 02-01-C0240 | Temporary impact to 5.3 acres of wetland vegetation including native species, such as *Typha latifolia* and *Scirpus acutus*. | Plant native tree s along channel (number and species were not specified in permits). Annual monitoring reports documented 19 coast live oaks and 22 Maraine ash trees. |
| 8217 | 1997 | 4 | Camarillo Hills Drain (Ventura County) | Ventura County Department of Airports | Removal of sediment and debris from Camarillo Hills Drain to restore design flow capacity | 9.300 | NS | 9.300 | NS | NS | NS | NA | NA | ND | ND | 9.300 | 0.000 | 9.300 | 9.300 | 9.300 | 9.300 | 9.300 | 5-067-97 | 97-50201-LM | | Floodplain along low-flow channel. Vegetation not specified. | Enhancement of 9.3 acres of WOUS through removal of exotic plants within the channel and seeding of the bank with native grasses. |
| 8337 | 1997 (401) 1998 (404) | 9 | Chollas Creek (San Diego) | Santa Fe Railroad Company | Replace Bridge 270-9 with a concrete structure | 0.152 | 0.043 | NS | 0.042 | 0.700 | NS | ND | ND | ND | ND | 0.042 | 0.042 | 0.000 | 0.042 | 0.042 | 0.042 | 0.042 | 5-035-97 | 98-20020-JL | 97-087 | Permanent impacts to 0.042 acres of intertidal flat habitat | Creation of 0.042 acres of intertidal flat habitat comprised of 40% wetland, 20% bay inlet open water, and 40% sandy beach flat habitat. |

| ID | Year | Region | Water (Location) | Applicant | Activities Conducted | 401 | | 404 | | CDFW | | USFWS | | Mitigation Plan | | Total Impacts | Impacts | | Total Required Mitigation | UCLA Discrepancy Study Results | | | 1600 Permit | 404 Permit | 401 Permit | Vegetation/Habitat Type | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Impact | Mitigation | Impact | Mitigation | Impact | Mitigation | Impact | Mitigation | Impact | Mitigation | | Perm | Temp | | Impacted | Required | Obtained | | | | Impacted | Mitigation |
| 8587 | 1998 | 8 | Unnamed Isolated Wetland Non-Waters of the U.S. (Fullerton) | Cal Pac Remediation Company, Fullerton | 13 Grade stabilizers and rock energy dissipaters were constructed downstream of 164-acre residential development | | | | | | | NA | NA | | | 0.100 | 0.100 | 0.000 | 0.100 | | | | | 200200380Chung | | Riparian and wetland vegetation. | Creation of mulefat riparian habitat. Mitigation site consisted of mulefat, black willow, arroyo willow, deer grass, oaks, sycamore, and toyon plantings. Measured mitigation area greater than the required 0.10 acres. |
| 8677 | 1998 | 8 | Santiago Creek | Caltrans, Orange and Anaheim | State Route 55 and Chapman Avenue Bridge Widening - south bank of Santiago Creek excavated to minimize backwater influences and disruption of flood flows.Concrete block mat installed in the excavated area. | 5.300 | 1.250 | ND | ND | ND | ND | ND | ND | ND | ND | 5.300 | 2.500 | 2.800 | 1.250 | 5.300 | 1.250 | 1.250 | | 19970004500RS | | Route 55 Bridge widening resulted in permanent impacts to 1.00 acres of streambed and temporary impact to 1.60 acres of streambed habitat. Chapman Avenue bridge widening resulted in permanent impacts to 0.70 acres and temporary impacts to 1.20 acres of streambed habitat. An additional 0.80 acres of riparian habitat impacted between the two bridge widening projects. Prior to impacts, the area consisted of riparian habitat dominated by mule fat. | Caltrans paid Orange County Public Facilities and Resources Department to remove one acre of Arundo. Caltrans also was required to plant seed and mulefat cuttings within up to 0.25 acres of Santiago Creek, within the spaces of the block mat armoring. Seeding in block mat unsuccessful but 0.26 acres of mule fat cuttings were located along the lower portion of the block mat armoring. |
| 8793 | 1998 | 4 | Castaic Creek, unnamed tributary | Larwin Company, Val Verde | Debris basin maintenance - removal of accumulated sediment and debris from a debris basin to maintain its flood control capacity | ND | ND | ND | ND | ND | ND | NA | NA | NA | NA | 2.270 | 2.270 | 0.000 | 1.400 | 2.270 | 1.400 | 1.400 | 5-408-97 | 199800639PMG | | Permanent impacts to 1.42 acres of wetland and 0.85 acres of streambed | Permittee paid the Forestry Service for 1.4 acres of offsite Arundo removal in upper portion of San Francisquito Creek in the Angeles National Forest |
| 9392 | 1998 | 4 | Matilija Creek (Los Padres National Forest ) | Caltrans District 7, Wheeler Gorge | Replacement of old steel/wood combo bridge | 0.350 | 0.350 | ND | ND | ND | ND | NA | NA | ND | ND | 0.350 | 0.110 | 0.240 | 0.350 | 0.350 | 0.350 | 0.320 | 539098 | 199950036LM | 98-123 | Impacted 0.11 acres permanent and 0.24 acres temporary. Riparian zone with sparse vegetation and steep banks. Vegetation included big leaf maples and white alders, with no shrub or short-herb layer. | Onsite restoration of temporary impact areas. Vegetation not found/identified. Offisite creation of 0.35 acres of riparian habitat. Dominant plants at offsite location included sycamore, coast live oak, black sage, mulefat, buckwheat, and wild oat. |
| 9404 | 1997 | 8 | Flood Control Facilities Maintenance (Corona) | City of Corona Public Works Department | Operation and maintenance of existing flood-control and recreational facilities on USACE leased land. Maintain three channels and a water line crossing on City-owned land | 12.950 | 12.950 | 11.940 | 11.940 | ND | ND | 11.940 | 11.940 | 11.940 | 11.940 | 11.940 | 11.940 | 0.000 | 11.940 | 11.940 | 11.940 | 11.940 | | 19980050900RRS | | Permanent impacts to 11.94 acres of WOUS. Impacted jurisdictional wetland and unspecified riparian vegetation | Offsite mitigation at 4 separate sites. Creation of 9.27 acres of WOUS, including 7.99 acres of wetland and 1.28 acres of non-wetland WOUS. Riparian non-WOUS comprised 2.67 acres of the mitigation area. Native vegetation included black willow, narrow-leaf willow, arroyo willow, mulefat, and Mexican elderberry. |
| 10274 | 2000 | 5S | Georgiana Slough (Isleton) | Debbie Cummings | Construction of recreational dock and access | | | | | | | | | | | 0.270 | 0.270 | 0.000 | 0.270 | | | | | 200000299 | 2188.07 (GTG) | Temporary Impacts to 0.027 acres of streambed and 60 feet of riparian habitat. | Purchase of 0.027 acres of shallow marsh habitat from a mitigation bank |
| 11208 | 2002 | 5S | Folsom Lake, Weber Creek, Slate Creek Tributary, Unnamed (Shingle Springs, El Dorado County) | Shingle Springs Rancheria | Highway 50 Interchange Construction | 0.088 | 0.021 | 0.088 | 0.088 | ND | ND | NA | NA | NA | NA | 0.088 | 0.088 | 0.000 | 0.088 | 0.088 | 0.088 | 0.088 | | 200200212 and 199300362 | | Permanent impacts by filling 0.088 acres of unvegetated streambed | Purchase of 0.088 acres of seasonal wetland habitat from a mitigation bank |

Source: An Evaluation of Compensatory Mitigation Projects Permitted Under Clean Water Act Section 401 by the California State Water Resources Control Board, 1991-2002. August 2007

NA = Not Applicable, ND = Not Determinable, NS = Not Specified