

SECTION 4.0 – ALTERNATIVES ANALYSIS

4.1 INTRODUCTION AND OVERVIEW

CEQA requires that an EIR describe a reasonable range of alternatives to the project, or to the location of the project, which could feasibly avoid or lessen any significant environmental impacts while substantially attaining the basic project objectives. An EIR should also evaluate the environmental effects of the alternatives for a comparative analysis. This chapter describes potential alternatives to the Proposed Project that were considered, identifies alternatives that were eliminated from further consideration and reasons for dismissal, and analyzes available alternatives in comparison to the potential environmental impacts associated with the Proposed Project.

Key provisions of the CEQA Guidelines pertaining to the alternatives analysis are summarized below:

- The discussion of alternatives shall focus on alternatives to the Proposed Project or its location that are capable of avoiding or substantially lessening any significant effects of the Proposed Project, even if these alternatives would impede to some degree the attainment of the Proposed Project objectives or would be more costly.
- The No Project Alternative shall be evaluated along with its impact. The No Project analysis shall discuss the existing conditions at the time the Notice of Preparation is published. Additionally, the analysis shall discuss what would be reasonably expected to occur in the foreseeable future if the Proposed Project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a “rule of reason;” therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. Alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the Proposed Project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the Proposed Project need to be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan contingency, regulatory limitation, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site. An EIR need not consider an alternative whose effects cannot be reasonably identified, whose implementation is remote or speculative, and that would not achieve the basic project objectives.

4.2 PROJECT OBJECTIVES

The LACFCD must remove sediment that has accumulated behind the dam to minimize the level of flood risk to downstream communities along the Arroyo Seco. In its current condition, the reservoir no longer has the capacity to safely contain another major debris event; and the outlet works have a risk of becoming clogged and inoperable. The Proposed Project would remove sediment from Devil's Gate Reservoir and establish a reservoir management system to maintain the flood control capacity of the reservoir. This will include removal of approximately 2.9 million cubic yards of current excess sediment in the reservoir in addition to any additional sediment received during the project sediment removal phase.

Primary project objectives include:

1. Reducing flood risk to the communities downstream of the reservoir adjacent to the Arroyo Seco by restoring reservoir capacity for flood control and future sediment inflow events
2. Supporting sustainability by establishing a reservoir configuration more suitable for routine maintenance activities including reservoir management
3. Removing sediment in front of the dam to facilitate an operational reservoir pool to reduce the possibility of plugging the outlet works with sediment or debris during subsequent storm events
4. Removing sediment placed at Johnson Field during the Devil's Gate Reservoir Interim Measures Project
5. Supporting dam safety by removing sediment accumulated in the reservoir in a timely manner to ensure the ability to empty the reservoir in the event of a dam safety concern
6. Delivering the sediment to placement or reuse facilities that are already prepared and designated to accept such material without native vegetation and habitat removal

4.3 ALTERNATIVES TO THE PROPOSED PROJECT

The alternatives identified below, with the exception of the mandatory No Project Alternative, were selected due to their potential to attain the basic project objectives discussed above and to lessen or avoid significant environmental effects resulting from implementation of the Proposed Project. Alternatives considered in this EIR include:

- Alternative 1: Configuration B – will remove approximately 2.8 million cubic yards of current excess sediment in the reservoir.
- Alternative 2: Configuration C– will remove approximately 4 million cubic yards of current excess sediment in the reservoir.
- Alternative 3: Configuration D– will remove approximately 2.4 million cubic yards of current excess sediment in the reservoir.
- Alternative 4: Sluicing Method – will remove the approximately 2.9 million cubic yards of current excess sediment in the reservoir.

- Alternative 5: Configuration A Haul Route Alternative – will remove approximately 2.9 million cubic yards of current excess sediment in the reservoir.
- No Project Alternative - assumes that improvements described for the Proposed Project would not be implemented.

In summary, the purpose of this section is to discuss feasible alternatives and to evaluate the ability of each alternative to reduce or avoid significant adverse environmental impacts while achieving the basic project objectives. The reader is referred to the individual sections of the EIR and to the Executive Summary for a detailed discussion of environmental impacts, by each issue area, that would result from implementation of the Proposed Project.

Of the alternatives, Alternative 3, Configuration D is environmentally superior and satisfactorily meets the project objectives. While Alternative 3, Configuration D does not have the least impacts across all issue areas, it does have substantially reduced impacts in comparison to the Proposed Project and most of the other alternatives. A comparison of each of the alternatives to the Proposed Project is provided in Table 4.3-1.

Table 4.3-1: Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1. Configuration B	Alternative 2. Configuration C	Alternative 3. Configuration D (Environmentally Superior)	Alternative 4. Sluicing Method	Alternative 5. Haul Route Alternative	Alternative 6 No Project Alternative
AESTHETICS - Would the project:							
Have a substantial adverse effect on a scenic vista?	Potentially Significant	Reduced (remains Potentially Significant)	Reduced (remains Potentially Significant)	Reduced (remains Potentially Significant)	Increased (remains Potentially Significant)	Similar (remains Potentially Significant)	Potentially Increased (remains Potentially Significant)
Damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less than Significant	Reduced (Less than Significant)	Reduced (Less than Significant)	Reduced (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Potentially Increased (Less than Significant)
Substantially degrade the existing visual character or quality of the site and its surroundings?	Potentially Significant	Reduced (remains Potentially Significant)	Reduced (remains Potentially Significant)	Reduced (remains Potentially Significant)	Increased (remains Potentially Significant)	Similar (remains Potentially Significant)	Potentially Increased (remains Potentially Significant)
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or pollution control district may be relied upon to make the following determinations. Would the project:							
Conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Increased (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)
Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Less than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Increased (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)

Table 4.3-1: Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1. Configuration B	Alternative 2. Configuration C	Alternative 3. Configuration D (Environmentally Superior)	Alternative 4. Sluicing Method	Alternative 5. Haul Route Alternative	Alternative 6 No Project Alternative
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emission, which exceed quantitative thresholds for ozone precursors)?	Less than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Increased (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)
Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant	Reduced (Less than Significant)	Increased (Less than Significant)	Reduced (Less than Significant)	Potentially Increased (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
Create objectionable odors affecting a substantial number of people?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
BIOLOGICAL RESOURCES – Would the project:							
Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)	Similar (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)	Similar (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)

Table 4.3-1: Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1. Configuration B	Alternative 2. Configuration C	Alternative 3. Configuration D (Environmentally Superior)	Alternative 4. Sluicing Method	Alternative 5. Haul Route Alternative	Alternative 6 No Project Alternative
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?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased Potentially Increased (Potentially Significant)	Similar (Less than Significant with Mitigation)	Potentially Increased Potentially Increased (Potentially Significant)
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 impeded the use of native wildlife nursery sites?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)	Similar (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)
Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Potentially Increased (Potentially Significant)
CULTURAL RESOURCES – Would the project:							
Cause a substantial adverse change in the significance of a historical resource?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Cause a substantial adverse change in the significance of an archaeological resource?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)

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Cause a substantial adverse change in the significance of a paleontological resource.	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)
Potentially impact unknown human remains within the proposed project site.	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)
GEOLOGY AND SOILS – Would the project:							
Potentially result in soil erosion or loss of topsoil during sediment removal activities.	Less Than Significant	Reduced (Less than Significant)	Reduced (Less than Significant)	Reduced (Less than Significant)	Increase (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
GREENHOUSE GAS EMISSIONS – Would the project:							
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less Than Significant	Reduced (Less than Significant)	Increased (Less than Significant)	Reduced (Less than Significant)	Potentially Increased (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
HAZARDS AND HAZARDOUS MATERIALS- Would the project:							
Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)

Table 4.3-1: Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1. Configuration B	Alternative 2. Configuration C	Alternative 3. Configuration D (Environmentally Superior)	Alternative 4. Sluicing Method	Alternative 5. Haul Route Alternative	Alternative 6 No Project Alternative
Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)	Reduced (Less than Significant)
Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Increased (Less than Significant)
HYDROLOGY AND WATER QUALITY–							
Would the project:							
Violate any water quality standards or waste discharge requirements?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)

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Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).	Less Than Significant	Increased (Less than Significant)	Reduced (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Increased (Less than Significant)
Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Otherwise substantially degrade water quality?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)

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LAND USE AND PLANNING – Would the project:							
Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Increased (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Potentially Increased (remains Significant)
MINERAL RESOURCES – Would the project							
Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)

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NOISE& VIBRATION– Would the project result in:							
Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, or a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Less Than Significant	Reduced (Less than Significant)	Increased (Less than Significant)	Reduced (Less than Significant)	Potentially Increased (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant with Mitigation	Reduced (Less than Significant with Mitigation)	Increased (Less than Significant with Mitigation)	Reduced (Less than Significant with Mitigation)	Potentially Increased (Less than Significant with Mitigation)	Similar (Less than Significant with Mitigation)	Reduced (Less than Significant)
A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Less Than Significant	Reduced (Less than Significant)	Increased (Less than Significant)	Reduced (Less than Significant)	Potentially Increased (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)

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PUBLIC SERVICES							
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:							
Parks	Less than Significant	Reduced (Less than Significant)	Reduced (Less than Significant)	Reduced (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Potentially Increased (Less than Significant)
RECREATION – Would the project:							
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less than Significant	Reduced (Less than Significant)	Reduced (Less than Significant)	Reduced (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Potentially Increased (Less than Significant)
Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	Less than Significant	Reduced (Less than Significant)	Reduced (Less than Significant)	Reduced (Less than Significant)	Increased (Less than Significant)	Similar (Less than Significant)	Potentially Increased (Less than Significant)

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TRANSPORTATION/TRAFFIC – Would the project:							
Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	Potentially Significant	Reduced (remains Potentially Significant)	Increased (remains Potentially Significant)	Reduced (remains Potentially Significant)	Potentially Increased (remains Potentially Significant)	Reduced (remains Potentially Significant)	Reduced (Less than Significant)
Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	Potentially Significant	Reduced (remains Potentially Significant)	Increased (remains Potentially Significant)	Reduced (remains Potentially Significant)	Potentially Increased (remains Potentially Significant)	Reduced (remains Potentially Significant)	Reduced (Less than Significant)
Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Reduced (Less than Significant)
Result in inadequate emergency access?	Less Than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Increased (remains Potentially Significant)
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Potentially Significant	Reduced (remains Potentially Significant)	Increased (remains Potentially Significant)	Reduced (remains Potentially Significant)	Potentially Increased (remains Potentially Significant)	Reduced (remains Potentially Significant)	Reduced (Less than Significant)

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UTILITIES AND SERVICE SYSTEMS–							
Would the project:							
Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Less than Significant Impact	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)

4.4 ALTERNATIVE 1, CONFIGURATION B

4.4.1 Alternative Description

Sediment Removal

Alternative 1, Configuration B excavation activities will remove approximately 2.8 million cubic yards (cy) of current excess sediment in the reservoir in addition to any additional sediment received during the project.

Excavation/Reservoir Configuration

Specific excavation limits and reservoir configuration for the Configuration B Alternative are shown in Figure 4.4-1: Alternative 1, Configuration B Sediment Removal and Management Areas. As shown in Figure 4.4-1, the basin will be excavated from the face of the dam to approximately the middle of the reservoir. The basin will be excavated to a 985-foot elevation at the face of the dam, sloping up to a 1,055-foot elevation at approximately 4,977 feet north of the dam. This configuration will involve approximately 83 acres of the reservoir. As part of this Alternative, sediment stockpiled at Johnson Field as part of the IMP will also be removed. Excavation will not involve the Oak Grove area of Hahamongna Park, the area of the reservoir outside the western and northern excavation limits, or the City of Pasadena's spreading grounds on the east side of the basin.

Removal Method

In order to excavate sediment from the reservoir, trees and vegetation growing within the excavation areas or where haul roads are located will need to be removed. In the areas where excavation will not take place, including the western edge of the reservoir, vegetation will not be removed.

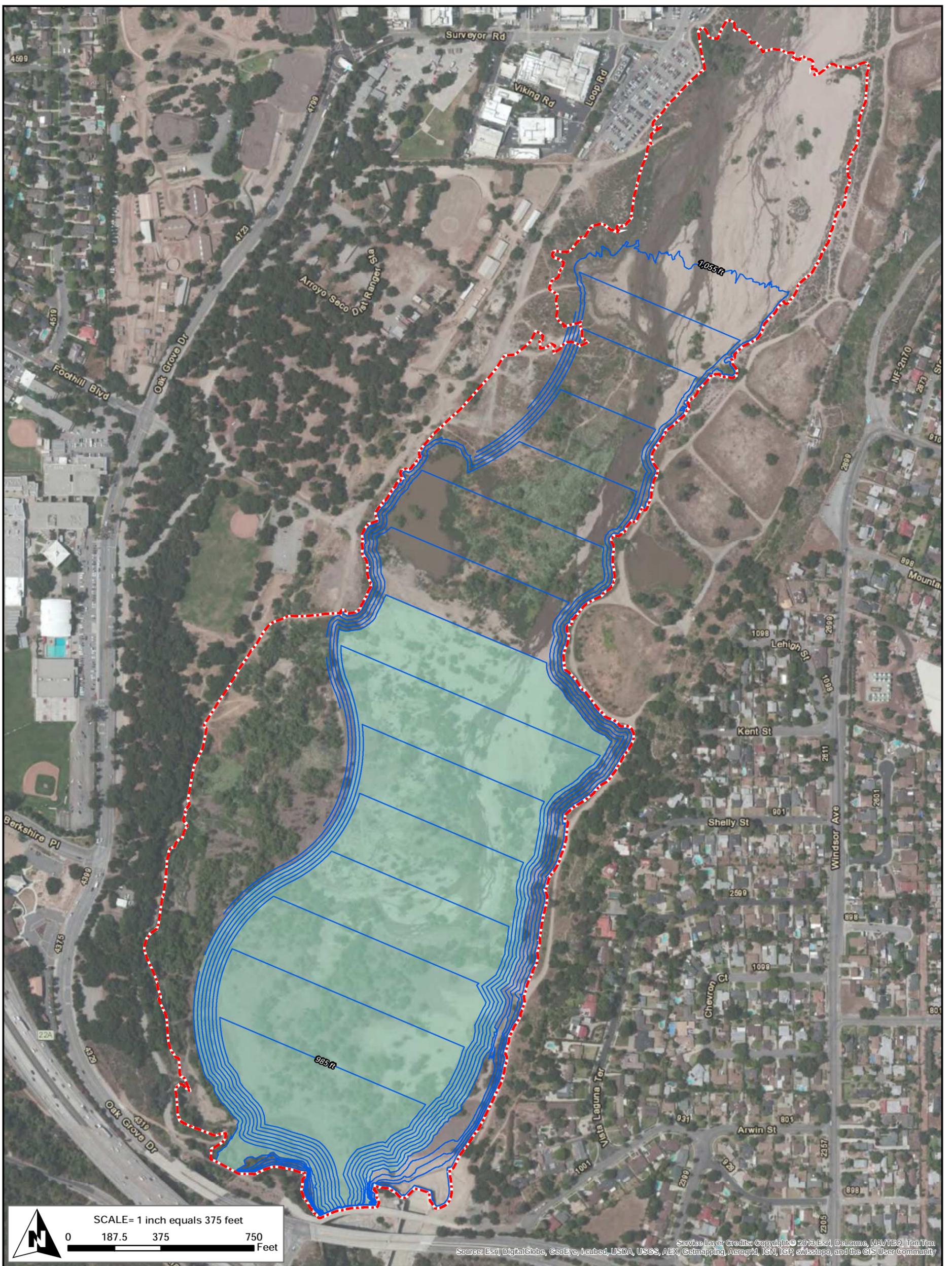
The accumulated sediment will be excavated within the limits shown in Figure 4.4-1. The excavation will be accomplished using the same removal method as the Proposed Project. Construction equipment will include but not be limited to approximately four front loaders with 4-yard buckets, two bulldozers, one excavator, one grader, one water truck, and two tender trucks. Vegetation and organic debris will be separated from the sediment. Coarse material may need to be processed through sorters and crushers to be hauled offsite. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within the excavation limits in Devil's Gate Reservoir.

Sediment Disposal

As shown in Sediment Disposal Truck Routes, below, this Alternative will use the same disposal sites as the Proposed Project.

Sediment Disposal Truck Routes

Under this Alternative, excavated sediment will be trucked offsite to the same disposal sites as the Proposed Project. These sites will include: the primary disposal site locations (the Waste Management Facility in Azusa, the Vulcan Materials Reliance Facility in Irwindale, and/or the Manning Pit Sediment



- Proposed Project Boundary
- Reservoir Management Area
- Sediment Removal Excavation Contours

Figure 4.4-1
Sediment Removal and Management
Areas Map
Alternative 1 - Configuration B

Version Date: 10/18/2013



Placement Site located in Irwindale east of the Proposed Project site) or a secondary facility located in Sun Valley west of the Proposed Project site (Sheldon Pit, Sun Valley Fill Site, Bradley Landfill, and/or Boulevard Pit). As with the Proposed Project, it is estimated that the eastern disposal sites will be used from 80 to 100 percent of the time. Use of the Sun Valley sites is estimated to occur from 0 to 20 percent of the time. Removed vegetation and organic debris will be hauled to Scholl Canyon Landfill located in the City of Glendale.

Sediment Disposal Truck Routes

This Alternative will use the same sediment disposal truck routes as the Proposed Project and as shown in Figures 2.5-2, 2.5-3, 2.5-4, Proposed Project Haul Routes.

Project Schedule

As with the Proposed Project, sediment removal under this Alternative will occur between Summer 2015 and Summer 2020; however, sediment removal under this Alternative could potentially have a slightly shorter duration than the Proposed Project due to the reduced amount of sediment to be removed. Excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, Monday through Saturday (except on holidays), as weather permits. During dry years, work could potentially start earlier and/or continue later. Alternative 1, Configuration B sediment removal activities will take place Monday through Friday between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday.

Reservoir Management

Alternative 1, Configuration B will employ reservoir management to manage sediment in a method similar to the Proposed Project to reduce buildup of sediment in the reservoir management area and eliminate or substantially reduce the occurrence of another large-scale sediment removal project in the future.

The reservoir will be maintained with the approximate reservoir management cut and elevation levels shown as the green shaded area in Figure 4.4-1. This will include a total reservoir management acreage of approximately 54.56 acres. The access roads will be maintained to provide proper road width for access.

Vegetation Maintenance

Vegetation within the reservoir management area of the reservoir will be mowed or removed and grubbed annually. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall. All vegetation and sediment outside the reservoir management footprint will be allowed to reestablish and/or remain in place. This will include the western edge of the reservoir outside the reservoir management footprint.

FAST Operations

During FAST operations, reservoir inflows from rain events will naturally pass fine grain size sediment through the reservoir and downstream of the dam. These FAST operations will occur during the winter

storm season and will not require mechanical agitation or assistance. FAST operations will reduce sediment accumulation in the reservoir and help maintain flood control capacity. The amount of sediment that will be transported through FAST operations is limited by the smaller sediment grain size that can be moved by storm runoff received into the reservoir and the subsequent quantities of storm runoff received.

It is anticipated that the majority of these FAST operations will be similar to historic FAST operations and that similar volumes of sediment will pass through the reservoir and into the Arroyo Seco.

Sediment Excavation/Trucking Offsite

Depending on the efficiency of the FAST operations, some mechanical excavation and trucking offsite may be required to remove accumulated sediment. Sediment excavation/trucking offsite during reservoir management will use the same methods and trucking routes as the sediment removal activities. The accumulated sediment will be excavated with construction equipment, including but not limited to, approximately two front loaders with 4-yard buckets, one bulldozer, one excavator, one grader, one water truck, and two tender trucks (for fuel and maintenance). Vegetation and organic debris will be separated from the sediment. The need for future sediment removal will depend on future storm activity and associated sediment accumulation.

As with the Proposed Project, it is estimated, based on past storm events, that sediment excavation/trucking offsite will be required to remove typically 13,000 cy of sediment annually. Based on an estimated removal of 4,800 cy per day, it is expected this will occur over an estimated two-week period, working Monday through Friday. This sediment excavation activity will take place during the late summer/early fall following the vegetation maintenance.

Moderately large sediment deposits have the potential to occur during a storm season with very intense rainfall or following a significant wildfire within the watershed. Such events are expected to occur very infrequently. It is anticipated that even with this type of event the newly deposited sediment could be removed in one season. A moderately large sediment removal event, anticipated to involve approximately 170,000 cy, could take place over an estimated 12-week period during the late summer and early fall following the vegetation maintenance.

4.4.2 Alternative Duration

A large-scale sediment removal project will be required if a significant amount of sediment accumulates in the reservoir or outside the maintenance footprint despite the reservoir management activities. This is not anticipated for a period of over two decades unless major fires and subsequent intense storms occur within the watershed. Sediment outside the maintenance footprint will be monitored to determine if the sediment buildup is exceeding projected volumes. If future reservoir conditions threaten dam operations, LACFCD will initiate the planning process for a new large-scale sediment removal project. Part of this planning will involve utilizing the CEQA process to evaluate and determine the appropriate level of environmental document required for the future project.

4.4.3 Impact Analyses and Comparison to Proposed Project

AESTHETICS

AESTHETICS-1 *Have a substantially adverse effect on a scenic vista.*

Sediment Removal

Sediment removal activities associated with Alternative 1, Configuration B will change the visual characteristics of the reservoir through the removal of sediment and associated vegetation in the reservoir. These changes will be similar to the Proposed Project at the south end of the reservoir; however, these changes will be reduced in magnitude in comparison to the Proposed Project, as Alternative 1, Configuration B will leave a greater area along the west side of the reservoir untouched.

As with the Proposed Project, sediment removal activities associated with Alternative 1, Configuration B will not result in obstruction or blockage of views, due to the large difference in elevation between viewpoints and the Proposed Project site.

Construction equipment will be visible in the basin. Views of construction equipment will be expected elements in the viewshed due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the interim measures.

With sediment removal under Alternative 1, Configuration B, the topography of the reservoir will be lower, especially at the south end of the reservoir; and vegetation within the excavation limits will be removed. These elements will result in a high degree of contrast from existing visual characteristics and will result in a significant impact to scenic vistas. These contrasting elements will be highly visible for Viewpoints 1 through 3. For Viewpoints 1 and 3, however, the co-dominant features of Devil's Gate Dam, the reservoir maintenance roads, electrical lines, and the debris boom line, and other less dominant features of the San Gabriel Mountains, Oak Grove Drive, JPL facilities, and residential areas will remain unchanged. In addition, the existing vegetation along the west side of the reservoir will not be removed and will share dominance with the dam and the excavation area.

Sediment removal activities will also be visible from Viewpoint 4 and Viewpoint 5 but less dominant due to distance and other more dominant visual elements. The dominant features for Viewpoint 4 (I-210, Devil's Gate Dam, San Gabriel Mountains, and the west side of the reservoir) and Viewpoint 5 (spreading grounds, JPL facilities) will remain unchanged.

As with the Proposed Project, excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, as weather permits. During the wetter months, changes to the visual characteristics associated with sediment removal will be slightly less apparent when water is stored in the basin. Some regrowth of riparian vegetation will likely occur during this time. Both these factors will reduce the change in the visual characteristics associated with sediment removal. In addition, as discussed above, sediment removal activities will not introduce view-obstructing features.

Nevertheless, due to the multi-year duration of the sediment removal phase under Alternative 1, Configuration B, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a significant impact to scenic vistas. While the sediment removal associated with Alternative 1, Configuration B will result in a significant impact to scenic vistas, the degree of contrast will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

Reservoir Management

As with the Proposed Project, reservoir management will not result in obstruction or blockage of views. Construction equipment will also be visible in the basin but only for short periods of time.

After completion of the proposed sediment removal activities associated with Alternative 1, Configuration B, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. The area available for regrowth will be greater for this alternative than for either reservoir management option under the Proposed Project. Under Alternative 1, Configuration B, approximately 28.52 acres of previously disturbed area will have natural vegetation regrowth and 54.56 acres of vegetation will be maintained annually. In addition, 37.34 acres that were not disturbed during sediment removal will remain undisturbed. In contrast, under the Proposed Project's reservoir management Option 1, approximately 120.42 acres of vegetation will be maintained annually; while under reservoir management Option 2, 33.97 acres of previously disturbed area will have natural vegetation regrowth and 91.28 acres of vegetation will be maintained annually.

As described above, the majority of the reservoir will be allowed to naturally grow and/or remain in place; and the trees on the border of the reservoir management area are expected to become dominant features within the reservoir. Therefore, reservoir management under Alternative 1, Configuration B will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas. In addition, any contrast associated with this Alternative will be reduced in comparison to either reservoir management option under the Proposed Project due to the reduction in reservoir management area and associated reservoir management activities.

Mitigation Measures

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation measures, impacts to scenic vistas from sediment removal activities will remain potentially significant.

Reservoir management impacts to scenic vistas will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior for aesthetics to the Proposed Project with respect to impacts on scenic vistas due to the reduction in sediment removal and reservoir management areas and associated activities.

Due to the reduced area of sediment removal and reservoir management areas and associated activities, Alternative 1, Configuration B will be environmentally superior for aesthetics to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Due to the greater area of sediment removal and reservoir management areas and associated activities, Alternative 1, Configuration B will be environmentally inferior for aesthetics to Alternative 2, Configuration C and Alternative 3, Configuration D.

Alternative 1, Configuration B will be environmentally superior for aesthetics to Alternative 6, No Project, as views of the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition.

AESTHETICS-2 *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 1, Configuration B will not involve damage to rock outcroppings or historic buildings but will involve removal of vegetation, including native and non-native trees from the site, though to a lesser degree than the Proposed Project. The Proposed Project site is not visible from the only designated state scenic highway in the vicinity of the Proposed Project site, SR-2. Therefore, implementation of this alternative will not damage scenic resources within the viewshed of a designated state scenic highway.

I-210, located to the south of the Proposed Project site, is identified as "Eligible" in the State Scenic Highway Program. Alternative 1, Configuration B will impact the existing visual character of a portion of the viewshed through the removal of vegetation including native and non-native trees from the site. This impact to visual character of a portion of the viewshed will be reduced in comparison to the Proposed Project due to the reduction in sediment removal and reservoir management areas and associated activities. In addition, views of the Proposed Project site from I-210 are very brief in nature (visibility for approximately 0.3 mile) and are dominated by views of the JPL facilities and San Gabriel Mountains. Implementation of Alternative 1, Configuration B will not obstruct views of these features. Therefore, impacts to scenic resources within this eligible but not designated state scenic highway will be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts After Mitigation Measure

The Proposed Project site is not visible from any designated state scenic highway and is only briefly visible from an eligible state scenic highway; therefore, impacts related to state scenic highways from sediment removal and reservoir management are less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior for aesthetics to the Proposed Project with respect to impacts related to state scenic highways from sediment removal and reservoir management, 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 1, Configuration B will also be environmentally superior for aesthetics to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior for aesthetics to Alternative 2, Configuration C and Alternative 3, Configuration D due to the greater area of sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior for aesthetics to Alternative 6, No Project, as views of the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition.

AESTHETICS-3 *Substantially degrade the existing visual character or quality of the site and its surroundings.*

Sediment Removal

As described above under AESTHETICS-1, the proposed sediment removal activities associated with Alternative 1, Configuration B will change the visual characteristics of the existing Proposed Project site through the removal of sediment and associated vegetation in the reservoir.

Disturbed landscape areas, both man-made and natural, are currently found throughout the basin. The amount and distribution of these areas change on a regular basis and are expected visual elements in the Proposed Project site landscape. Construction equipment will also be visible in the basin. Views of construction equipment will be expected elements in the viewshed, due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

Sediment and debris management are considered existing operational components of Devil's Gate Reservoir and are not considered significant impacts to the visual characteristics of the site (City of Pasadena 2002). During the sediment removal phase of Alternative 1, Configuration B the disturbed areas will largely replace the vegetated areas, resulting in a high degree of contrast between existing and sediment removal conditions. While the open character of the site will remain, the overall visual quality of the Proposed Project site will be lower due to the large-scale alteration and decrease of desirable elements.

Excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, as weather permits. During the wetter months, temporary changes to the visual characteristics of the Proposed Project site will be slightly less apparent with water storage in the basin. Some regrowth of riparian vegetation would likely occur during this time. Both these factors will reduce the temporary change in the visual characteristics associated with sediment removal. Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a significant impact to the visual character of the Proposed Project site.

Although the sediment removal associated with this alternative will result in a significant impact to the visual character of the Proposed Project site, the degree of contrast will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. In addition, approximately 37.34 acres of the approximately 120.42 acres of the Proposed

Project site will be left undisturbed. This will include swaths along the west side of the site. With areas of undisturbed vegetation left throughout, the site will more closely resemble the mix of disturbed and vegetated areas found under existing conditions than the Proposed Project.

Reservoir Management

As with the Proposed Project, construction equipment will also be visible in the basin but only for short periods of time. After completion of the proposed sediment removal activities associated with Alternative 1, Configuration B, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. Reservoir management under this alternative will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character. The majority of the reservoir will be allowed to naturally grow and/or remain in place, and the trees on the border of the reservoir management area are expected to become dominant features within the reservoir. As described previously, the area requiring vegetation maintenance will be smaller than for either reservoir management option under the Proposed Project. In addition, any contrast associated with this Alternative will be reduced in comparison to either reservoir management option under the Proposed Project, due to the reduction in reservoir management area and associated reservoir management activities.

Mitigation Measures

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation; impacts to visual character from sediment removal activities will remain potentially significant.

Reservoir management impacts to visual character will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior for aesthetics to the Proposed Project with respect to impacts to visual character 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 1, Configuration B will also be environmentally superior for aesthetics to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior for aesthetics to Alternative 2, Configuration C and Alternative 3, Configuration D due to the greater areas of sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior for aesthetics to Alternative 6, No Project, as views of the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition.

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 conformance with the current air quality management plan (AQMP). The first and second criteria are from the South Coast Air Quality Management District (SCAQMD). According to the SCAQMD, AQMP consistency is determined by two key indicators: (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 1, Configuration B 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 1, Configuration B's combined NO_x emissions during sediment removal to a level of less than significant. 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 1, Configuration B 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 the EPA's emission standards for Model Year 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 Alternative 1, Configuration B's combined NO_x emissions during the sediment removal phase to a level of less than significant.

Reservoir management activities will not violate an air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the Alternative 1, Configuration B during reservoir management will be consistent with the first indicator. No significant impact would occur.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts to air quality plans 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 1, Configuration B will also be environmentally superior to: Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This Alternative will potentially be environmentally superior to Alternative 4, Sluicing if proper sediment transport does not occur under Alternative 4, Sluicing, causing sediment deposits from sluicing operations 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 air quality impacts associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to 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 1, Configuration B 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 1, Configuration B's combined NO_x emissions during sediment removal to a level of 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 1, Configuration B 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 these mitigations would reduce Alternative 1, Configuration B's combined NO_x emissions during the sediment removal phase to a level of less than significant.

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

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts to air quality standards 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project, due to sediment removal and reservoir management activities.

AIR QUALITY-3 *Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Sediment Removal/Reservoir Management

Air Quality Plans

As discussed previously, Alternative 1, Configuration B emissions of NO_x are expected to exceed the SCAQMD regional significance thresholds during sediment removal. This exceedance will not be consistent with air quality management plans and therefore will result in a significant cumulative impact. This impact will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

Emissions of VOC, NO_x, PM₁₀, and PM_{2.5} are not expected to exceed the SCAQMD regional significance thresholds during reservoir management. The SCAQMD considers construction-related emissions that do not exceed the project-specific thresholds will not result in a cumulative impact.

Cumulative Health Impacts

As with the Proposed Project, for Alternative 1, Configuration B, during sediment removal, significance threshold would not be exceeded for emissions of particulate matter and CO; no significance threshold would be exceeded during reservoir management under either option. 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.

Mitigation Measure

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

Residual Impacts After Mitigation

Sediment removal will not exceed any localized significance threshold except for combined NO_x emissions. Implementation of these mitigations would reduce Alternative 1, Configuration B's combined NO_x emissions during the sediment removal phase to a level of less than significant.

Reservoir management will not exceed any localized significance threshold; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts to cumulative health 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities.

AIR QUALITY-4 *Expose sensitive receptors to substantial pollutant concentrations.*

Sediment Removal/Reservoir Management

Localized Significance Thresholds

As with the Proposed Project, the onsite emissions for Alternative 1, Configuration B for sediment removal and reservoir management activities will exceed LST thresholds.

Carbon Monoxide Hotspot

As with the Proposed Project, the CO Hotspot analysis for Alternative 1, Configuration B shows no exceedance of the State or federal CO standard; and no significant impact is expected during sediment removal or management.

Carcinogenic Or Toxic Contaminants

As with the Proposed Project, all routes modeled for Alternative 1, Configuration B resulted in less than significant non-cancer risk from diesel emissions created by Alternative 1, Configuration B.

Mitigation Measure

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts to sensitive receptors to substantial pollutant concentrations 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities.

AIR QUALITY-5 *Create objectionable odors affecting a substantial number of people.*

Sediment Removal/Reservoir Management

The CEQA Guidelines indicate that a significant impact would occur if the Proposed Project would create objectionable odors affecting a substantial number of people.

As with the Proposed Project, diesel exhaust for Alternative 1, Configuration B will be emitted from equipment during the sediment removal process. Diesel exhaust is an objectionable odor to some; however, concentrations will disperse rapidly from the Project site (OB-1 2013); therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 1, Configuration B is not expected to produce objectionable odors beyond the Proposed Project site under sediment removal or reservoir management; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts caused by objectionable odors.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to all of the other alternatives except Alternative 6, No Project Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

BIOLOGICAL RESOURCES

BIOLOGY-1 *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.*

Sediment Removal

As shown in Figure 4.4-2: Alternative 1, Configuration B Sediment Removal Vegetation Communities and Table 4.4-1, potential impacts to vegetation communities will be reduced in comparison to the Proposed Project due to the reduction in area disturbed during excavation and associated sediment removal activities.

Table 4.4-1: Alternative 1, Configuration B, Sediment Removal Impacts to Vegetation Communities

Vegetation Communities	Estimated Acres of Vegetation Removed During Sediment Removal	
	Proposed Project	Alternative 1 Configuration B
Riversidean Alluvial Fan Sage Scrub	1.1	0.1
California Sagebrush – California Buckwheat Scrub	3.1	1.9
Scoured	26.5	13.0
Escaped Cultivars	0.4	0.2
Riparian Woodland	51.4	37.2
Mustard and Annual Brome Semi-Natural Herbaceous Stand	22.8	17.4
Mule Fat Thickets	11.1	10.4
Disturbed	1.9	0.9

Sensitive Plants

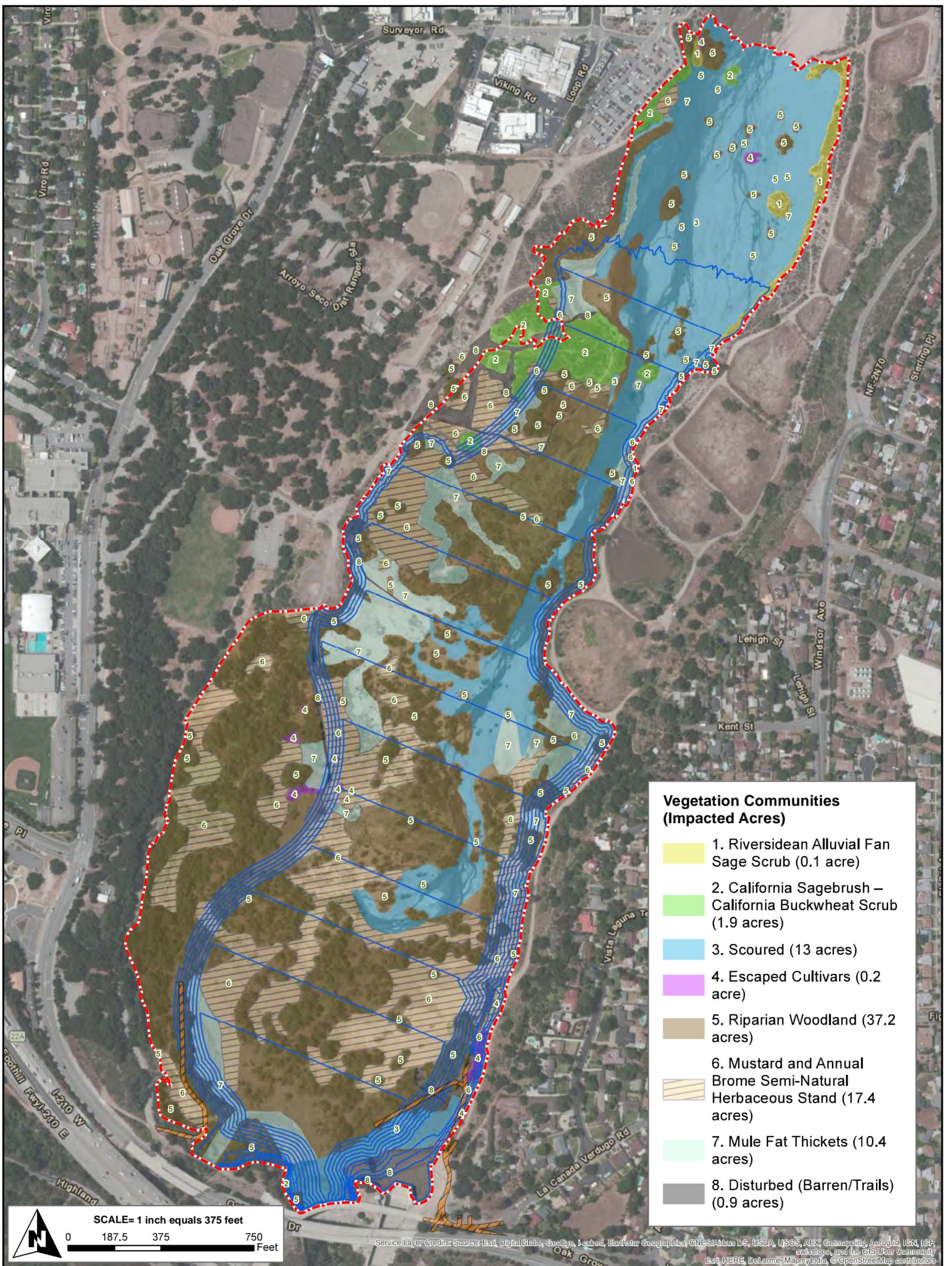
No listed or otherwise sensitive plant species were observed on the Proposed Project site. Therefore, as with the Proposed Project, Alternative 1, Configuration B is not expected to have a substantial adverse effect on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Sensitive Wildlife

The Proposed Project site contains habitat and/or potential habitat for five special status species: least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake. Least Bell's vireo, yellow warbler, coast range newt, and two-striped garter snake have all been observed on the Proposed Project site. The southwestern pond turtle has not been observed on the Proposed Project site. If it did occur, habitat for this species would be largely limited to ponded areas.

Of the approximately 120.42 acres that will be disturbed under the Proposed Project, approximately 37.34 acres, or 31 percent, will be left undisturbed under Alternative 1, Configuration B. These undisturbed areas will include swaths along the west side of the site. These undisturbed areas include potential habitat for the five special status species.

As shown in Figure 4.4-2: Alternative 1, Configuration B Sediment Removal Vegetation Communities Impacts and Table 4.4-1, potential impacts to sensitive wildlife will be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities. Disturbance of habitat for the least Bell's vireo within Riparian Woodland and Mule Fat Thickets will be reduced by approximately 14.2 acres (28 percent) and 0.7 acre (7 percent), respectively, as compared to the Proposed Project.



- Proposed Project Boundary
- Access Road
- Sediment Removal Excavation Limit

Figure 4.4-2
Sediment Removal Vegetation
Communities Impacts Map
Alternative 1 - Configuration B

Version Date: 10/16/2014



Disturbance of habitat for the yellow warbler within the Riparian Woodland community will be reduced by approximately 14.2 acres (28 percent), as compared to the Proposed Project.

Habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake occurs within streams and seasonal ponds found on the Proposed Project site. The amount of this habitat that will be available will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Under Alternative 1, Configuration B, disturbance of habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake is expected to be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities.

Direct harm or take of these species during sediment removal activities would result in a significant impact. The chance of this occurring during sediment removal activities under this alternative is expected to be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. To ensure no harm or take of these special status species, Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3, listed below, have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During sediment removal, tree and vegetation removal has the potential to significantly affect nesting birds and roosting bats if active nests or roosting bats are present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a significant impact. This impact will be reduced under Alternative 1, Configuration B, as fewer acres of habitat will be removed in comparison to the Proposed Project (see Table 4.4-1). With implementation of Mitigation Measures MM BIO-4 and MM BIO-5, listed below, impacts to nesting birds and roosting bats will be less than significant.

Reservoir Management

Figure 4.4-3: Alternative 1, Configuration B Expected Vegetation Communities Under Reservoir Management Figure 4.4-3: Alternative 1, Configuration B Expected Vegetation Communities Under Reservoir Management shows expected conditions of the vegetation communities under reservoir management for Alternative 1, Configuration B in comparison to the Proposed Project. As shown below, Alternative 1, Configuration B will result in a greater diversity of vegetation communities, including a greater amount of Riparian Woodland and Mule Fat Thickets. Under Alternative 1, Configuration B, a greater area of the Proposed Project site will be left undisturbed during reservoir management, approximately 37.34 acres. In contrast, under the Proposed Project's reservoir management Option 1, the whole Proposed Project site, approximately 120.42 acres, will be disturbed annually. Under the Proposed Project's reservoir management Option 2, 33.97 acres will be left undisturbed during reservoir management.

The reservoir management area for Alternative 1, Configuration B is expected to be composed of Mule Fat Thickets and Mustard and Annual Brome Semi-Natural Herbaceous Stand communities. The availability of streams and seasonal ponds will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff.

Direct harm or take of these species during reservoir management activities will result in a significant impact. The chance of this occurring during reservoir management activities under this alternative is expected to be reduced in comparison to either of the Proposed Project's reservoir management options due to the reduction in the reservoir management area. To ensure no harm or take of these special status species occurs, MM BIO-1, MM BIO-2, and MM BIO-3 have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

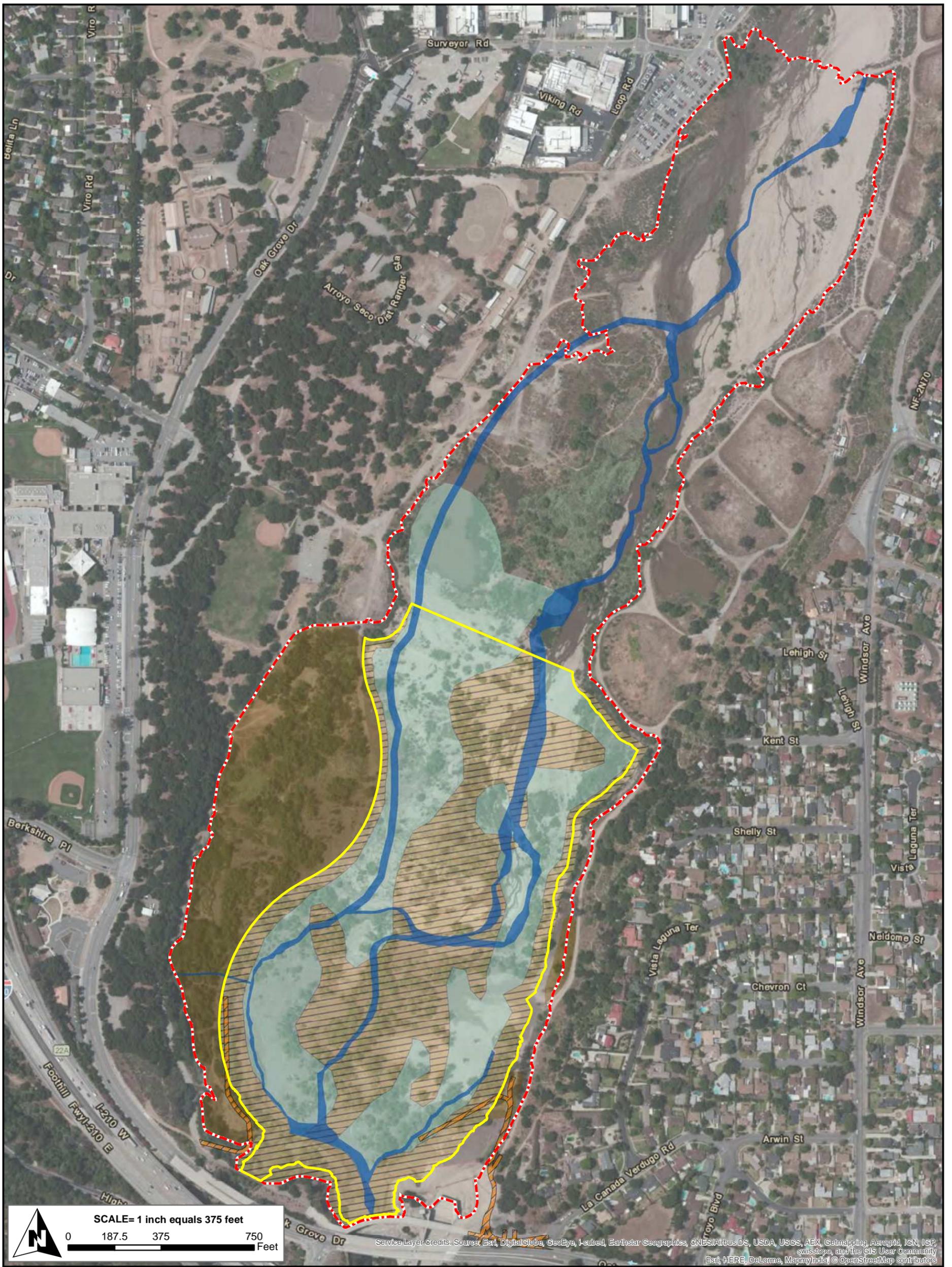


Figure 4.4-3
Expected Vegetation Communities
Under Reservoir Management
Alternative 1 - Configuration B

Version Date: 10/16/2014



- | | | |
|---|---------------------------|--|
|  | Proposed Project Boundary | Vegetation Type |
|  | Reservoir Management Area |  Mule Fat Thickets |
|  | Access Road |  Riparian Woodland |
|  | Drainage |  Mustard and Annual Brome Semi-Natural Herbaceous Stand |

During reservoir management, tree and vegetation removal will significantly affect nesting birds and roosting bats, if present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a significant impact. This impact will be reduced under Alternative 1, Configuration B, as less vegetation will be removed in comparison to the Proposed Project. With implementation of Mitigation Measures MM BIO-4 and MM BIO 5, impacts to nesting birds and roosting bats will be less than significant.

Mitigation Measures

MM BIO – 1: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide protection measures and monitor for wildlife in harm's way. This includes initial ground- or vegetation-disturbing 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 the 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.

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.

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 CNDDDB field data sheet and submitted to CDFW for inclusion into the CNDDDB.

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. Prior to commencement of sediment removal activities within bird breeding season (March 1 through 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.

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 it 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.

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.

Residual Impacts after Mitigation

Alternative 1, Configuration B will result in a less than significant impact on candidate, sensitive, or special status species.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative. Alternative 1, Configuration B 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 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative as habitat in the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition and degradation that will continue to 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 1, Configuration B will impact approximately 0.1 acre of Riversidean Alluvial Fan Sage Scrub within the Proposed Project site. Impacts to Riversidean Alluvial Fan Sage Scrub will result in a significant impact requiring mitigation; however, disturbance of this community will be reduced by approximately 1 acre (9 percent) as compared to the Proposed Project. To minimize impacts due to loss of Riversidean 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.

This alternative will impact approximately 37.2 acres of Riparian Woodland and 10.4 acres of Mule Fat Thickets within the Proposed Project site. 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 significant impact; however, disturbance of Riparian Woodland and Mule Fat Thickets will be reduced by approximately 14.2 acres (28 percent) and 0.7 acre (7 percent), respectively, as compared to the Proposed Project. 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.

Figure 4.4-4: Alternative 1, Configuration B Impacted Water Features Figure 4.4-4: Alternative 1, Configuration B Impacted Water Features shows the water features that will be impacted. Compared to the Proposed Project, Alternative 1, Configuration B will reduce impacts to these water features by approximately 30 percent. To minimize impacts to jurisdictional waters found within these water

features, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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. Areas shall be mapped using aerial photographs.

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 trees that will be removed or potentially affected by the Proposed Project and trees that can be avoided. LACFCD will replace trees that cannot be avoided. The replacement is expected to be up to 1:1 by 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.

MM BIO – 8: A combination of onsite and offsite habitat restoration, enhancement, and exotic removal shall be implemented by LACFCD at a 1:1 ratio for impacted sensitive habitat and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. This mitigation measure shall be monitored for success for five years following implementation. A report of the monitoring results shall be submitted annually, during the five years following implementation, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement.

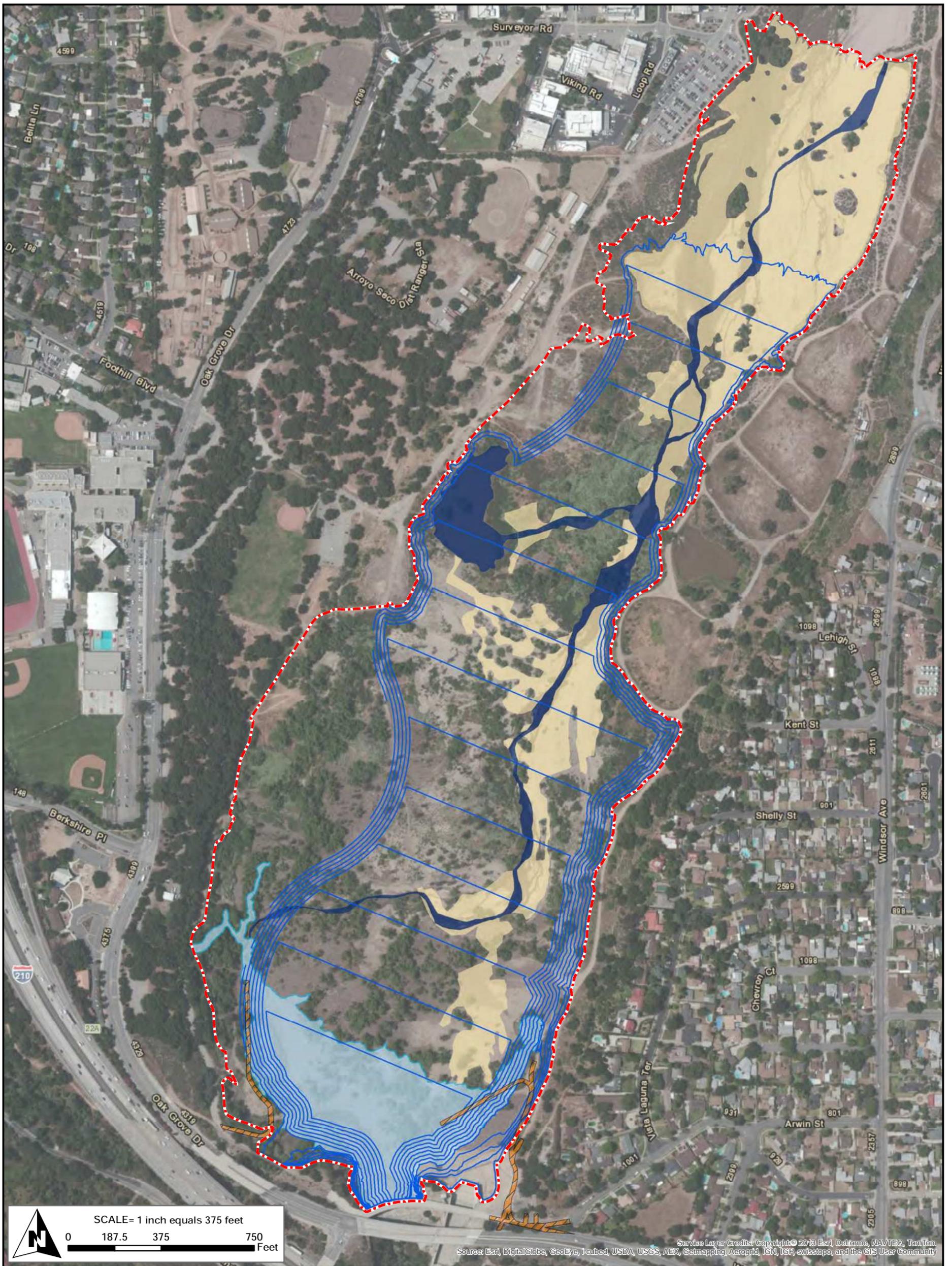
Residual Impacts after Mitigation

With implementation of Mitigation Measures MM BIO-6 through MM BIO-8, Alternative 1, Configuration B under sediment removal and reservoir maintenance will result in a less than significant impact on riparian habitat and other sensitive natural communities.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts to riparian habitat and other sensitive natural communities 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative. Alternative 1, Configuration B 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.



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- Proposed Project Boundary
 - Access Road
 - Sediment Removal Excavation Limit
- Waters (Impacted Acres)**
- Braided Channel (15.9 acres)
 - Drainage (5.8 acres)
 - Wetland (10.7 acres)

Figure 4.4-4
Impacted Water Features Map
Alternative 1 - Configuration B

Version Date: 10/18/2013



Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative as habitat in the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition and degradation that will continue to 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

Figure 4.4-4, above, shows the water features that will be impacted by this alternative. Compared to the Proposed Project, Alternative 1, Configuration B will reduce impacts to these water features by approximately 30 percent. To minimize impacts to jurisdictional waters found within these water features, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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 on the Proposed Project site. With implementation of these mitigation measures, impacts to wetlands will be reduced to a level below significance.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative. Alternative 1, Configuration B 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 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative as the wetlands in the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition and degradation that will continue to increase over time.

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 1, Configuration B will 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 has been provided. This impact will be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and either reservoir management option.

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 be reduced to a level below significance.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative. Alternative 1, Configuration B 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 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative as the wetlands in the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition and degradation that will continue to increase over time.

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 1, Configuration B will result in the removal of native trees from the Proposed Project site. This impact will be reduced under Alternative 1, Configuration B, as less vegetation and fewer trees will be removed in comparison to the Proposed Project. Implementation of Mitigation Measure MM BIO-7 will reduce impacts to city-protected trees to a level below significance.

Mitigation Measures

See Mitigation Measure MM BIO-7.

Residual Impacts After Mitigation

Alternative 1, Configuration B will result in a less than significant impact to city-protected trees.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to larger sediment removal and management impacts.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative, as trees in the reservoir will likely be lost under Alternative 6, No Project due to continuous sediment deposition.

CULTURAL RESOURCES

CULTURAL-1 *Cause a substantial adverse change in the significance of a historical resource.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no alterations or modifications will be made to any historic resource; and therefore, no significant impact to historical resources is anticipated with this alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No historic resources are within the proposed Project site; therefore Alternative 1, Configuration B will not result in impacts to historic resources.

Comparison to Proposed Project and Other Alternatives

As no historic resources are within the proposed Project site, Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project with respect to historic resources.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives.

CULTURAL-2 Cause a substantial adverse change in the significance of an archaeological resource.

Sediment Removal/Reservoir Management

Alternative 1, Configuration B will involve ground-disturbing activities under sediment removal and reservoir management; however, as noted in Section 3.5, most of the soil in the Proposed Project area consists of recently accumulated sediment. In areas filled with recently accumulated sediment, archeological sites are not anticipated to exist, although it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified archeological sites have a potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-1 will reduce potential impacts to less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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 archaeological materials are observed, the excavation in the proximity of the discovery will be diverted until a qualified archaeologist evaluates the discovery.

Residual Impacts After Mitigation

While it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-1, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to archaeological resources due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities.

CULTURAL-3 *Cause a substantial adverse change in the significance of a paleontological resource.*

Sediment Removal/Reservoir Management

No paleontological resources were encountered during the course of the survey and are not expected in the accumulated sediment. It is always possible that unidentified paleontological materials exist in native soil below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified paleontological materials have the potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-2 will reduce impacts to less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is always possible that unidentified paleontological materials exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-2, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to paleontological resources due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities.

CULTURAL-4 *Potentially impact unknown human remains within the proposed project site.*

Sediment Removal/Reservoir Management

As with the Proposed Project, archival research and the archaeological survey in connection with the Proposed Project did not indicate the presence of any known human remains in the project area. In the event human remains are discovered, implementation of Mitigation Measure MM CUL-3 will reduce impacts to less than significant.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is possible that human remains could be discovered in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-3, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to accidental discovery of human remains due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities.

GEOLOGY & SOILS

GEOLOGY-1 *Potentially result in soil erosion or loss of topsoil during sediment removal activities.*

Sediment Removal/Reservoir Management

Alternative 1, Configuration B will involve the excavation and deposition of the sediment at facilities already prepared and designated to accept such sediment during sediment removal and reservoir management. Sediment stockpiled at Johnson Field as part of the IMP will also be removed. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within Devil's Gate Reservoir. Disturbed sediments are more susceptible to erosion; however, as discussed above in Air Quality, these

impacts will be reduced to less than significant through implementation of SCAQMD Rule 403 and BMPs. In addition, excavation, grading, and sediment placement activities will be in accordance with established guidelines, permits, and regulations established for each disposal site. As such, sediment removal and reservoir management impacts to erosion will be less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

No mitigation measures will be required.

Residual Impacts After Mitigation

With implementation of SCAQMD Rule 403 and BMPs and the resulting reduction in potential for erosion, no significant impacts to geology and soils would occur as a result of Alternative 1, Configuration B.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to soil erosion due to the reduction in sediment removal and reservoir management areas and associated soil disturbance.

Due to the reduction in sediment removal and reservoir management areas and associated soil disturbance, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities.

GREENHOUSE GAS EMISSIONS

GHG EMISSIONS-1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Sediment Removal/Reservoir Management

Alternative 1, Configuration B 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 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 1, Configuration B will have the same amount of daily equipment usage/truck traffic and reduced overall sediment removal duration; therefore, this alternative will generate less greenhouse gas emissions than the Proposed Project. This impact will not be "cumulatively considerable" and is therefore less than significant under CEQA.

As with the Proposed Project, Alternative 1, Configuration B may prove a positive effect on climate change. High ambient temperatures coupled with important demand for oxygen due to the degradation of substantial amounts of organic matter favor the production of CO₂, the establishment of anoxic conditions, and thus the production of CH₄. If the reservoir is left as it is, the large quantity of biomass currently existing may exacerbate the condition. With the removal and disposal of most of the organic mass in the Scholl Canyon Landfill, which uses the green waste primarily as “alternative daily cover” (ADC), the overall benefit to the carbon ecosystem will be positive, since prior to using green waste for ADC, larger amounts of cover soil had to be imported into the landfill from offsite sources (Kong et al. 2008). Use of the green waste as ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. This potential benefit will not be as great under Alternative 1, Configuration B due to the reduction in excavation area and associated vegetation removal.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with the generation of greenhouse gas emissions will occur as a result of Alternative 1, Configuration B.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B will generate fewer overall greenhouse gas emissions than the Proposed Project; however, it will not produce as much green waste to be used as ADC. Use of ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions; nevertheless, Alternative 1, Configuration B is considered environmentally superior to the Proposed Project due to overall production of greenhouse gas emissions.

Due to overall production of greenhouse gas emissions, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 from associated overall production of greenhouse gas emissions.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project due to sediment removal and reservoir management activities and associated production of greenhouse gas emissions.

GHG EMISSIONS-2 *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Sediment Removal/Reservoir Management

AB 32 identified a 2020 target level for GHG emissions in California of 427 MMT of CO₂e, which is approximately 28.5 percent less than the year 2020 BAU emissions estimate of 596 MMT CO₂e. To achieve these GHG reductions, widespread reductions of GHG emissions will have to occur across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. These reductions in mobile-sources and energy production of GHG emissions would occur with or without development of Alternative 1, Configuration B. Overall, Alternative 1, Configuration B will be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. Currently, no other GHG reduction plan (i.e., SCAG, SCAQMD, or County) applies to Alternative 1, Configuration B. As with the Proposed Project, Alternative 1, Configuration B will not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will occur as a result of Alternative 1, Configuration B.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project with respect to applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS AND HAZARDOUS MATERIALS

HAZARDS-1 *Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 1, Configuration B will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project. Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project due to sediment removal and reservoir management activities.

HAZARDS-2 *Create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials into the environment.*

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 1, Configuration B will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials impacts to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project. Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project due to sediment removal and reservoir management activities.

HAZARDS-3 *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 1, Configuration B will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. The proposed construction routes pass La Cañada High School and Hillside School and Learning Center. Adherence to County, State, and federal agency regulations governing the use of these materials reduces the potential for impacts to a less than significant level and will not pose a safety hazard to sensitive receptors. No mitigation measures are required.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials impacts within one-quarter mile of an existing school to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 5, Haul Route Alternative and Alternative 6, No Project.

Alternative 1, Configuration B will be environmentally inferior to Alternative 5, Haul Route Alternative, as the Alternative 1, Configuration B construction routes pass La Cañada High School and Hillside School and Learning Center.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project due to sediment removal and reservoir management activities.

HAZARDS-4 *Located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.*

Sediment Removal/Reservoir Management

The EPA included Hahamongna Watershed Park area on the NPL Superfund List due to the presence of detected VOCs and perchlorate in groundwater originating from the JPL property. The impacted groundwater is at 200 feet bgs; and, as with the Proposed Project, the concentrations of organochlorine pesticides, petroleum hydrocarbons (diesel and hydraulic/motor oil range and aromatics), and SVOCs detected in samples collected from Devil's Gate Reservoir are below regulatory thresholds. Therefore,

the listing of the watershed on the Superfund List does not present a significant hazard to the public or the environment, and no significant impacts associated with Alternative 1, Configuration B are expected.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS-5 *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Sediment Removal/Reservoir Management

Alternative 1, Configuration B sediment removal and reservoir management activities will occur onsite and will not interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies. Additionally, access to the surrounding roads will be maintained during sediment removal and reservoir management activities and will not interfere with the response facilities located adjacent to the Proposed Project site, including the County of Los Angeles Fire Department Camp 2 and the City of Pasadena Police Department located at 2175 Yucca Lane. Alternative 1, Configuration B will also increase flood control protection downstream of Devil's Gate Dam. No mitigation measures are required.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project, as Alternative 6, No Project will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam. This flooding could also potentially interfere with access to roadways.

HYDROLOGY & WATER QUALITY

HYDROLOGY-1 *Violate any water quality standards or waste discharge requirements.*

Sediment Removal/Reservoir Management

FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. During both sediment removal and reservoir management phases, FAST operations will take place during winter rain events, using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. It is anticipated that these FAST operations will be similar to historic FAST operations and that sediment fines discharged during FAST operations will be transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows. As with the Proposed Project, no significant impacts to water quality standards are expected due to FAST operations.

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 1, Configuration B activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

With adherence to regulations and permit requirements and implementation of project-specific BMPs, impacts related to otherwise substantially degrading water quality will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project. Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project, due to sediment removal and reservoir management activities.

HYDROLOGY-2 *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.*

Sediment Removal/Reservoir Management

As with the Proposed Project, with implementation of Alternative 1, Configuration B the reservoir will have the ability to contain more of the local runoff, which in turn will result in more stormwater penetrating surface sediment in the project area and subsequently recharging the groundwater basin. No significant impacts to groundwater supplies are expected.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant unavoidable adverse impacts would occur as a result of Alternative 1, Configuration B.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally inferior to the Proposed Project due to the reduction in area to contain local runoff and reduction in percolation due to less removal of accumulated sediment.

Alternative 1, Configuration B will also be environmentally inferior to all of the other alternatives except Alternative 3, Configuration D and Alternative 6, No Project. Alternative 1, Configuration B will be environmentally superior to Alternative 3, Configuration D and Alternative 6, No Project due to greater area to contain local runoff and increased percolation due to removal of accumulated sediment.

HYDROLOGY-3 *Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation.*

Sediment Removal/Reservoir Management

Drainage patterns within the reservoir change on a regular basis depending on seasonal conditions, water flow, and sediment deposition. Sediment removal and reservoir management will also result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Excavation, grading, and sediment placement activities will occur under LACDPW regulations, which establish protocols for proper design of slopes and temporary sediment-collecting structures.

Although the drainage characteristics for the site will be altered, Alternative 1, Configuration B will result in a positive impact to drainage of Devil's Gate Reservoir because it will enhance the flood control abilities of Devil's Gate Dam. While Alternative 1, Configuration B will result in a small increase of impervious surface area, this small amount is not expected to significantly change drainage patterns and no significant increase in the amount of surface runoff will occur. As such, impacts related to offsite erosion will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will result in a less than significant impact on drainage patterns.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except for Alternative 4, Sluicing. Alternative 1, Configuration B will be environmentally superior to Alternative 4, Sluicing due to the potential for erosion associated with the sluicing alternative.

HYDROLOGY-4 *Otherwise substantially degrade water quality.*

Sediment Removal/Reservoir Management

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 1, Configuration B activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project. Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project due to sediment removal and reservoir management activities.

LAND USE & PLANNING

LAND USE-1 *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Sediment Removal

As with the Proposed Project, Alternative 1, Configuration B will not conflict with the City's General Plan or zoning designation of Open Space for the Proposed Project site and is consistent with the LACFCD easement.

As discussed in Subsection 3.8.3, Applicable Regulations, the HWPMP emphasizes protection of recreational and natural resources as well as the management of flood control for the downstream watershed. Alternative 1, Configuration B is consistent with HWPMP Goal 2 of managing the flood control basin for protection of the downstream areas by improving and maintaining the flood capacity behind Devil's Gate Dam.

Implementation of sediment removal and reservoir management will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities (see further discussion below in Recreation). With implementation of Mitigation Measure MM LAN-1, impacts associated with recreational activities coexisting with flood management and water conservation will be reduced to less than significant.

Mitigation Measure

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.

Residual Impacts After Mitigation

Impacts associated with recreational activities coexisting with flood management and water conservation would be reduced to less than significant for sediment removal and reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts to land use associated with compatibility to recreation due to the reduction in sediment removal and reservoir management areas and associated activities.

Due to the increase in sediment removal and reservoir management areas and associated activities, Alternative 1, Configuration B will be environmentally inferior to all of the other alternatives except for Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Due to the comparative reduction in sediment removal and reservoir management areas, associated activities, Alternative 1, Configuration B will be environmentally superior to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project; however, recreational activities will likely be impacted under Alternative 6, No Project due to continuous sediment deposition.

MINERAL RESOURCES

MINERALS-1 *Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.*

Sediment Removal/Reservoir Management

The Proposed Project site contains areas delineated within SMARA zone designated MRZ-2, which indicates that the area contains adequate information to indicate that significant mineral deposits are present or are judged to have a high likelihood for their presence (CDMG 1994). As with the Proposed Project, under Alternative 1, Configuration B, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment removal is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will not result in any significant impacts to mineral resources that will be of value to the region and residents of the state.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B will also be neither environmentally superior nor inferior to any of the other alternatives.

MINERALS-2 *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

While the Arroyo Seco Master Plan EIR (2002) states that the reservoir may contain large quantities of arroyo stone, the Proposed Project site is not delineated as a locally important mineral resource recovery site on a local general plan, specific plan, or other local land use plan. As with the Proposed Project, under Alternative 1, Configuration B, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment excavation is not expected to involve usable aggregate material or arroyo stone due to unfavorable

characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will not result in any significant impacts to availability of a locally important mineral resource recovery site.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to any other alternative.

NOISE & VIBRATION

NOISE-1 *Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Sediment Removal/Reservoir Management

Onsite Construction Equipment Noise

Alternative 1, Configuration B sediment removal activities will take place Monday through Friday to between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday. This alternative will use the same amount and type of construction equipment as the Proposed Project. Since the removal of sediment activities will require a greater amount of equipment than the reservoir management activities, calculations for onsite construction equipment noise have been based on the sediment removal activities equipment list.

Noise impacts from onsite construction equipment activities associated with Alternative 1, Configuration B will be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. Construction noise impacts will be the same as those associated with the Proposed Project to the nearby sensitive receptors and are shown below in Table 4.4-2.

Table 4.4-2: Alternative 1 Onsite Construction Equipment Noise Levels at Nearby Sensitive Receptors

Receptor Description	Receptor Jurisdiction	Distance to Receptor (feet)	Construction Noise Levels ¹	
			dBA Leq	dBA L _{max}
Single-Family Home	Pasadena	140	71	73
Single-Family Home	Los Angeles County	180	69	71
JPL Office	La Cañada Flintridge	200	68	70
Hahamongna Watershed Park	Pasadena	20	86	90
La Cañada High School	La Cañada Flintridge	430	63	63
La Cañada Methodist Church	La Cañada Flintridge	500	62	62

Notes:

¹ L_{max} is based on the maximum noise from the loudest piece of equipment and the Leq is the average noise from all equipment.

Source: RCNM, Federal Highway Administration, 2006

Table 4.4-2, above, shows that construction noise impacts will range from 62 dBA Leq to 86 dBA Leq at the nearby receptors, with the highest noise levels occurring at the portion of Hahamongna Watershed Park that is adjacent to the west side of the reservoir.

The City of Pasadena exempts public agencies from the Municipal Code noise requirements. The County of Los Angeles exempts flood control maintenance and construction operations from noise restrictions. The City of La Cañada Flintridge does not provide maximum noise thresholds of construction noise that occurs during the allowed times between Monday through Friday of 7:00 a.m. to 6:00 p.m. Standard Time and 7:00 a.m. to 7:00 p.m. Daylight Savings Time and on Saturday between 7:00 a.m. and 5:00 p.m. Therefore, Alternative 1, Configuration B will comply with all local ordinances that apply to sediment removal and reservoir management activities taking place during the allowed hours.

Offsite Vehicular Noise

Alternative 1, Configuration B sediment removal and reservoir management activities will generate the same number of daily haul truck trips as the Proposed Project: up to 425 daily round trips and 200 daily round trips, respectively. Therefore, potential impacts from offsite traffic noise created by the offsite vehicle trips for Alternative 1, Configuration B will be the same as those generated from the Proposed Project; however, due to the shorter time frame for removing the material, the impact from the Alternative will be lessened. Overall, as with the Proposed Project, roadway noise impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 1, Configuration B will comply with all local noise ordinances, and roadway noise impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts associated with noise levels due to the shorter time frame for removing the material.

Due to the shorter time frame for removing the material, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will initially be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 1, Configuration B could 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 downstream associated with removal activities.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-2 *Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Sediment Removal/Reservoir Management

As with the Proposed Project, only the nearby single-family homes in the City of Pasadena would experience vibration levels that would exceed the 0.01-inch-per-second vibration standard. This potentially significant impact will be reduced to less than significant through implementation of Mitigation Measure MM N-1. In addition, this impact will be reduced in comparison to the Proposed Project, as sediment removal under this alternative is expected to have a shorter duration.

Mitigation Measures

MM N-1: 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.

Residual Impacts After Mitigation

Through implementation of Mitigation Measure MM N-1, the onsite construction equipment vibration impacts to nearby sensitive receptors would be reduced to less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts associated with vibration levels due to the shorter time frame for removing the material.

Due to the shorter time frame for removing the material, Alternative 1, Configuration B will also be environmentally superior to all other alternatives except Alternative 3, Configuration D and Alternative 6, No Project.

Alternative 1, Configuration B will initially be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 1, Configuration B could 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 downstream associated with removal activities.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-3: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Sediment Removal/Reservoir Management

Alternative 1, Configuration B will not create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing noise levels. For this analysis, both the sediment removal activities and reservoir management activities have been considered as temporary activities, since they would occur only for limited durations of time. The construction activities associated with the removal of the sediment may create temporary onsite noise impacts from the operation of construction equipment as well offsite noise impacts from the use of haul trucks to export material offsite.

Onsite Construction Equipment Noise

As with the Proposed Project, the onsite equipment that will be operated under Alternative 1, Configuration B will not conflict with any construction noise standards. Any temporary noise level increase from onsite construction noise will be less than significant. Therefore, potential noise levels by onsite construction from Alternative 1, Configuration B will be the same as those generated from the Proposed Project; however, due to the shorter time frame for removing the material the impact will be lessened.

Offsite Vehicular Noise

As with the Proposed Project, the offsite vehicular trips associated with Alternative 1, Configuration B utilize locations that do not already exceed the standards for existing conditions. The analysis also found that for the locations that currently exceed the normally acceptable noise standard, Alternative 1, Configuration B's noise contribution to these roadway segments will be within the Federal Transit Administration's allowable noise exposure increase levels. The temporary increase in noise level created from offsite vehicular noise impacts will result in a less than significant impact. Therefore, potential for offsite vehicular noise from Alternative 1, Configuration B will be the same as those generated from the Proposed Project; however, due to the shorter time frame for removing the material the impact will be lessened.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Temporary noise level increase from onsite construction noise and offsite vehicular noise would be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to impacts associated with noise levels due to the shorter time frame for removing the material.

Due to the shorter time frame for removing the material, Alternative 1, Configuration B will also be environmentally superior to: Alternative 2, Configuration C and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will initially be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 1, Configuration B could 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 downstream associated with removal activities.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

RECREATION/PUBLIC SERVICES

RECREATION-1 *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Alternative 1, Configuration B will not result in the construction of new residences or facilitate the development of residences or result in an increase in area population. Therefore, implementation of the Alternative 1, Configuration B will not result in increased use or the physical deterioration associated with increased use for neighborhood or regional parks or other recreational facilities due to any increases in area population.

Sediment Removal Impacts

As with the Proposed Project, under Alternative 1, Configuration B sediment removal will occur over the course of five years; and during this, most of the Proposed Project site will be closed to public use from the dam face to the edge of this Alternative's excavation limit boundaries (see Figure 4.4-5: Alternative 1, Configuration B Impacts to Designated Trails). Alternative 1, Configuration B will have a potential impact on recreational opportunities through temporarily restricted access to trails and long-term alteration of the landscape. Maintenance roads within the basin are used by the LACFCD, Southern California Edison (SCE), and the City of Pasadena, among others, for operations and maintenance of Devil's Gate Reservoir and other facilities in the area. The majority of the maintenance roads will be closed during sediment removal; however, these roads are not officially designated for recreational uses and are often not available for unofficial recreation use due to reservoir water levels or maintenance activities.

Designated Recreational Uses

As detailed below, implementation of sediment removal will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities. These impacts may increase the use of other area parks and recreational facilities such as those described in Table 3.15-1: Area Recreational Facilities.

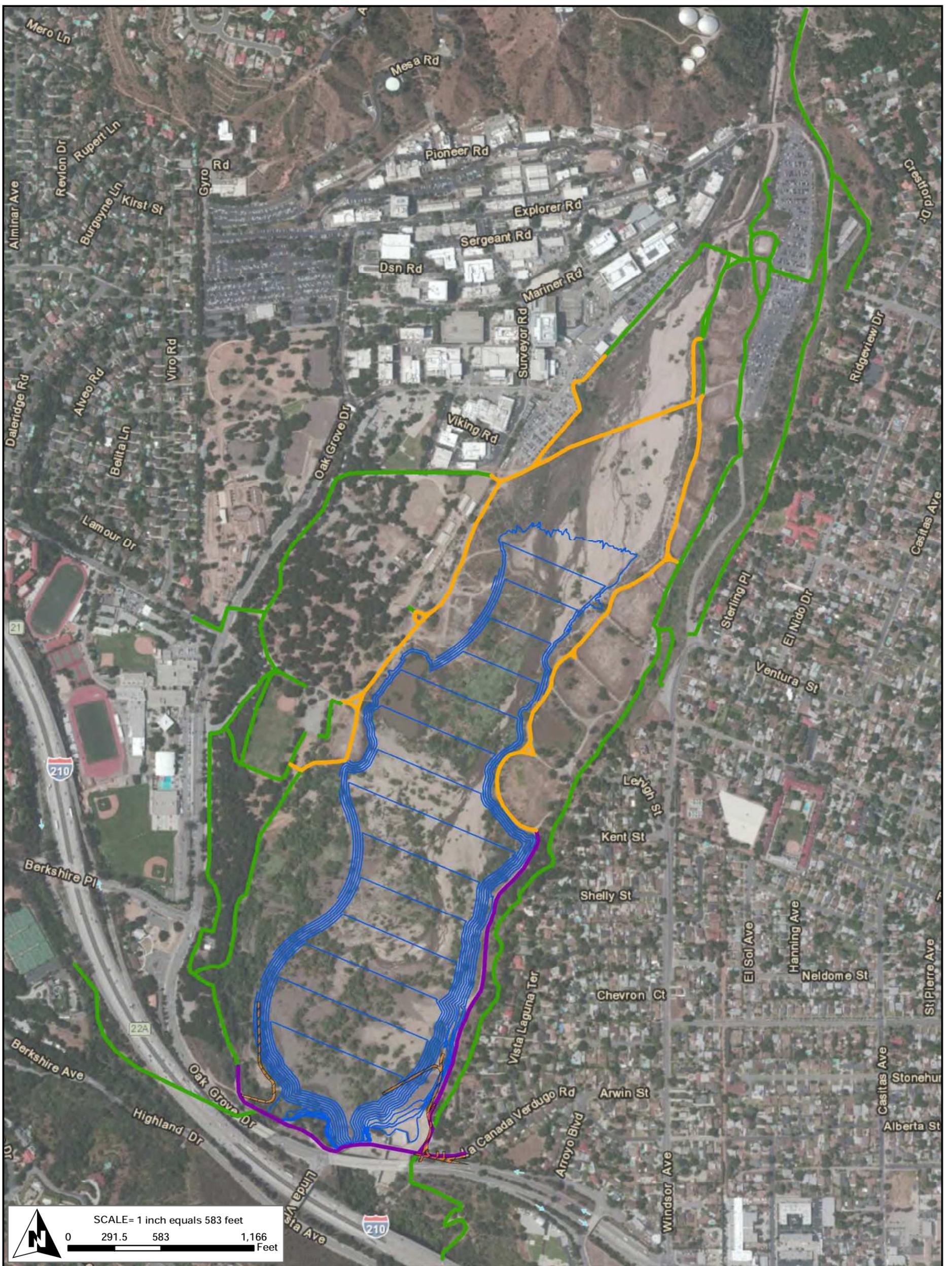
The Oak Grove area of Hahamongna Watershed Park and the associated facilities including Oak Grove Disk Golf Course will remain open during sediment removal and will continue to provide active recreational facilities to the area. Sediment removal activities will not limit the use of the Oak Grove area of Hahamongna Watershed Park by individuals or by organizations such as the Oak Grove Disc Golf Club, the Rose Bowl Riders, MACH 1, or the Tom Sawyer Camp.

Activities such as hiking, biking, horseback riding, bird watching, and nature walks will be limited to trails located outside the excavation boundary or to trails opened in absence of removal activities. Of the six designated trails in and adjacent to the Proposed Project site, three of these trails, Flint Wash Trail, Gabrielino Trail, and Gould Canyon Trail, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Small portions of the Altadena Crest Trail, Arroyo Seco Trail, and West Rim Trail will either be closed when sediment removal activities are under way and/or are near the trail. A very small portion of the Altadena Crest Trail will be closed during the whole sediment removal phase. Figure 4.4-5 shows the location of the different access conditions during sediment removal.

Sediment removal activities associated with this Alternative will not limit or block access to the Oak Grove area and many of the designated trails and will not result in direct potentially significant impacts to these facilities; however, use of these facilities may be less desirable due to construction-related emissions and noise, dust, visual, and traffic impacts associated with sediment removal. These temporary, indirect impacts will reduce the quality of the recreational experience.

Indirect impacts to recreation associated with sediment removal under Alternative 1, Configuration B will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. In addition, approximately 37.34 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include swaths along the west side of the site. These areas of undisturbed vegetation left throughout will serve to screen some of the ongoing recreation uses from the sediment removal activities and associated construction-related emissions and noise, dust, and visual impacts.

Recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities. Due to the number of other recreational facilities and trails in the vicinity, it is anticipated that these visitors will be dispersed throughout the area and that no single park or facility would experience a substantial increase in use. Therefore, Alternative 1, Configuration B will not increase use of other existing parks or recreation facilities such that substantial physical deterioration of these facilities will occur or be accelerated. Impacts to other existing parks and recreation facilities will be temporary and less than significant. Sediment removal under this Alternative could potentially have a shorter duration than the Proposed Project due to the reduced amount of sediment to be removed. This shorter duration could further reduce the temporary and less than significant impact to other existing parks and recreation facilities.



-  Access Road
-  Sediment Removal Excavation Limit
- Trail & Maintenance Road Closures
-  Closed during the full duration of sediment removal
-  To remain open during sediment removal
-  Closed during sediment removal with possible opening on a seasonal basis
-  Temporarily closed while sediment removal is occurring in the area

Figure 4.4-5
Impacts To Designated Trails Map
Alternative 1 - Configuration B

Version Date: 10/21/2013



Reservoir Management Impacts

After the annual proposed reservoir management, access to Devil's Gate Reservoir will be similar to existing conditions. Every year the reservoir will be temporarily closed to public access for reservoir management. This will occur during the late summer/early fall over an estimated five-week period, Monday through Friday. The length of time will vary depending on the amount of sediment deposited in the reservoir over the course of the year. The Oak Grove area of Hahamongna Park and most of the designated trails will remain open during reservoir management activities and will continue to provide active recreational facilities to the area. The proposed reservoir management activities will typically occur only during the weekdays; therefore, weekend visitors of the Hahamongna Watershed Park will not be affected by the proposed reservoir management activities. Trails will be beneficially affected in the long-term through the reduction of potential disruption by flooding and/or being buried under sediment. Impacts to existing parks and recreation facilities associated with Alternative 1, Configuration B reservoir management activities will be less than significant. In addition, the reservoir management area under Alternative 1, Configuration B will be much smaller than under either Proposed Project reservoir management options.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will not result in any potentially significant impacts associated with increased use of other existing parks or recreation facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project with respect to recreation uses 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project due to continuous sediment deposition.

RECREATION-2 *Require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment.*

As discussed in detail above under RECREATION-1, recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities during reservoir management activities. It is anticipated that these

visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 1, Configuration B will not require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment, resulting in a less than significant impact. Sediment removal under this Alternative could potentially have a shorter duration than the Proposed Project, due to the reduced amount of sediment to be removed. This shorter duration could further reduce the temporary and less than significant impact to other existing parks and recreation facilities.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project due to continuous sediment deposition.

PUBLIC SERVICES-1 *Result in substantial adverse impacts associated with the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.*

As discussed in detail above under RECREATION-2, Alternative 1, Configuration B will not result in a substantial increase in use of any one park or facility. Therefore, Alternative 1, Configuration B will not require the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project 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 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project due to continuous sediment deposition.

TRANSPORTATION & TRAFFIC

TRANSPORTATION-1 *Conflict with an applicable plan, ordinance, or policy establishing measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized- travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Sediment Removal

Truck traffic associated with Alternative 1, Configuration B is expected to adhere to traffic regulations; however, during sediment removal, Alternative 1, Configuration B truck traffic is expected to impact traffic LOS on the existing roadway network. Potential impacts regarding existing LOS are discussed under TRANSPORTATION-2 below. This increase in traffic would result in temporary significant impacts to the efficiency of the circulation system. Implementation of Mitigation Measures MM TRA-1 and TRA-2 would reduce this temporary impact but not to a level of less than significant.

Sediment removal and associated transportation under this Alternative could potentially have a shorter duration than the Proposed Project due to the reduced amount of sediment to be removed. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant.

Reservoir Management

Truck traffic associated with reservoir management is not expected to adversely affect traffic LOS on the existing roadway network. Therefore, impacts to the efficiency of the circulation system would be less than significant.

Mitigation Measures

MM TRA-1: Proposed Project haul trucks will not deliver to the Vulcan Material Reliance Facility during the PM peak period.

MM TRA-2: Proposed Project haul trucks will not deliver to the Boulevard Pit during the PM peak period.

Residual Impacts after Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce temporary impacts to traffic and circulation but not to a level of less than significant. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project due to the reduction in sediment removal and reservoir management areas.

Due to the reduced amount of trucking during reservoir management, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C.

Due to the larger sediment removal and reservoir management areas, Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D.

Alternative 1, Configuration B will also be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project due to sediment removal and reservoir management activities.

TRANSPORTATION-2 *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Sediment Removal

As with the Proposed Project, Alternative 1, Configuration B will not significantly impact freeway segments and freeway on- and off-ramps but will significantly impact the following intersections:

- Berkshire Place and I-210 eastbound ramps during the AM peak period;
- Irwindale Avenue/Foothill Boulevard intersection during the PM peak hour;
- Figueroa St/Scholl Canyon Road and SR-134 westbound ramps during the AM and PM peak hours;
- Glenoaks Boulevard/Osborne Street intersection during the AM and PM peak hours;
- Sheldon Street and San Fernando Road intersection during the PM peak hour; and
- Branford Street and San Fernando Road intersection during the PM peak hour.

In order to reduce the impacts to the Berkshire Place and I-210 eastbound ramps intersection during the AM peak period, sediment removal trucks would have to use an alternative route during this period. This alternative route would involve as follows: Loaded trucks will exit the reservoir on the improved, existing westerly access road, turning left onto southbound Oak Grove Drive, then right onto westbound Windsor Avenue, and then east onto I-210 east, to disposal sites in Azusa and Irwindale or I-210 west to the Sun Valley disposal sites.

Under this route all the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections for the AM Peak Period; however, use of this alternative route would require implementation of the following potential impact reduction measure:

- Proposed Project haul trucks would avoid using the Berkshire Place and I-210 eastbound ramps intersection during the AM peak period by instead using the Windsor/Arroyo and I-210 ramps. This would require the median on Oak Grove Drive to be restriped to a Two Way Left Turn Lane (TWLTL). The changes to Oak Grove Drive would require the approval of the City of Pasadena.

The impact reduction measure discussed above cannot be legally imposed by the LACFCD since the location is under the jurisdiction of the City of Pasadena. Every reasonable effort will be made to coordinate with and receive approval to implement this impact reduction measure; however, LACFCD cannot guarantee that this impact reduction measure will be implemented. Therefore this temporary impact would remain potentially significant.

The Irwindale Avenue/Foothill Boulevard intersection is anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact. Mitigation Measure MM TRA-1 would reduce the impact to the Irwindale Avenue/Foothill Boulevard intersection to less than significant.

The Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact. Reducing this impact to less than significant would require implementation of the following potential impact reduction measure:

- Figueroa Street/Scholl Canyon Road and SR-134 westbound ramps: Restripe the westbound right turn lane to a shared left-right turn lane and the northbound through lane to a shared through-right turn lane. The northbound direction will include a shared through-right turn lane and a right turn lane. The southbound direction will include a shared through-left turn lane and a through turn lane. The westbound direction will include a left turn lane and a shared left-right turn lane. This impact reduction measure will require the approval of the City of Los Angeles and Caltrans.

Implementation of the impact reduction measure discussed above would reduce the impact to the Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection to less than significant. This impact reduction measure cannot be legally imposed by the LACFCD. Every reasonable effort will be made to coordinate with and receive approval to implement the impact reduction measure; however, LACFCD cannot guarantee that the measure will be implemented therefore this temporary impact could remain significant.

The Glenoaks Boulevard and Osborne Street intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact.

The Sheldon Street and San Fernando Road intersection and the Branford Street and San Fernando Road intersection are anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in temporary significant impacts. Mitigation Measure MM TRA-2 would reduce the impacts to less than significant.

Reservoir Management

The reservoir management associated with Alternative 1, Configuration B would require periodic management activities at the Devil's Gate Reservoir. Depending on storm events, sediment excavation/trucking offsite may be required over a period of a few weeks annually. Daily truck traffic is expected to be half the amount that will occur during sediment removal. Due to the limited time period and the reduced truck traffic, reservoir management activities are not expected to adversely affect traffic level of service on the existing roadway network. Therefore, impacts would be less than significant.

Mitigation Measures

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project due to the reduction in sediment removal and reservoir management areas.

Due to the reduced amount of trucking during reservoir management, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C.

Due to the larger sediment removal and reservoir management areas, Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D.

Alternative 1, Configuration B will also be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project, due to sediment removal and reservoir management activities.

TRANSPORTATION-3 *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Sediment Removal

Implementation of the Alternative 1, Configuration B may include impact reduction measures described above that would require modifications to the existing roadway network. These modifications would consist of roadway restriping to reduce potential traffic impacts to a level less than significant. These changes would not alter existing roadway use and would be implemented consistently with all applicable traffic safety standards. Alternative 1, Configuration B is limited to excavation and transportation of sediment that has accumulated in Devil's Gate Reservoir and would not introduce any

new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, impacts related to traffic hazards would be less than significant.

Reservoir Management

The reservoir management associated with Alternative 1, Configuration B would not require any modifications to the existing roadway network and would not introduce any new uses that would be incompatible with the existing roadway system. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project or any of the other alternatives as it would not introduce any new uses that would be incompatible with the existing roadway system.

TRANSPORTATION-4 *Result in inadequate emergency access.*

Sediment Removal/Reservoir Management

Alternative 1, Configuration B would not sever, or otherwise block access to, any existing roadways. No equipment staging will occur on public roadways during construction of the Proposed Project. The impact to emergency access would be a less than significant impact.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project or any other alternative except for Alternative 6, No Project Alternative.

Alternative 1, Configuration B will be environmentally superior to Alternative 6, No Project Alternative, as the No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

TRANSPORTATION-5 *Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Sediment Removal

Alternative 1, Configuration B would be confined to the roadway network described in Section 3.16.2 and would not adversely affect alternative modes of public transportation such as light rail. Implementation of Alternative 1, Configuration B would not require closure of any bus stops or disrupt any existing bus routes. The degrading of LOS at intersections, freeway segments, and freeway on- and off-ramps described above under TRANSPORTATION-2 could affect buses using the existing roadway network. This would be a temporary potentially significant impact.

Reservoir Management

The reservoir management associated with Alternative 1, Configuration B would require periodic management activities at Devil's Gate Reservoir that would not adversely affect traffic level of service on the existing roadway network that could delay bus services. Therefore, reservoir management impacts would be less than significant.

Mitigation Measures

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered environmentally superior to the Proposed Project due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C.

Due to larger sediment removal and management area, Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D.

Alternative 1, Configuration B will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

UTILITIES & SERVICE SYSTEMS

UTILITIES-1 *Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Sediment Removal

As with the Proposed Project, during sediment removal Alternative 1, Configuration B will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment and vegetation removal operations will result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Although the drainage characteristics for the site will be altered, the project overall will result in a positive impact to drainage of Devil's Gate Reservoir because it will help restore the flood control capacity of Devil's Gate Dam and Reservoir. As with the Proposed Project, Alternative 1, Configuration B will add minimal impermeable surface area to the Proposed Project site through paving a portion of the access roads from Oak Grove Drive. This minimal increase in impervious surface area will not result in any significant increase in stormwater runoff that will require new stormwater drainage facilities.

In addition, these activities will not directly involve the existing storm drain outfalls, power lines, gas line, communication lines, water lines, sewer lines, or water wells. Impacts to these utility facilities will be avoided through compliance with City regulations regarding utility facilities, coordination with utility providers, and implementation of LACDPW BMPs.

Reservoir Management

During reservoir management, Alternative 1, Configuration B will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment that accumulates after the proposed removal will be removed through FAST operations or through mechanical excavation and trucking. The FAST operations are expected to be similar to historic FAST operations, and sediment fines discharged through FAST operations will be transported during storm flows to the Pacific Ocean via Arroyo Seco and the Los Angeles River. No impacts to stormwater facilities are expected during FAST operations. Any necessary mechanical removal during reservoir management is expected to be small (typically 13,000 cy per year). Impacts to stormwater facilities during mechanical removal will be avoided through compliance with City regulations regarding stormwater facilities and implementation of LACDPW BMPs.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 1, Configuration B will not result in any potentially significant impacts to utility facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project or to any of the other alternatives.

4.4.4 Conclusion and Relationship to Project Objectives

Alternative 1, Configuration B will meet the Proposed Project's objectives of satisfactorily reducing flooding risk, creating a configuration suitable for routine operations and maintenance, reducing the possibility of plugging at the dam face, removing sediment from Johnson Field, removing sediment in a timely manner, and delivering sediment to facilities already prepared to accept sediment.

Alternative 1, Configuration B Alternative is considered environmentally superior to the Proposed Project due to reduced impacts associated with sediment removal and reservoir management.

Due to the reduction in sediment removal and reservoir management areas, Alternative 1, Configuration B will also be environmentally superior to Alternative 2, Configuration C except for impacts associated with Aesthetics and Land Use and Planning.

Due to the larger sediment removal and reservoir management areas, Alternative 1, Configuration B will be environmentally inferior to Alternative 3, Configuration D.

Alternative 1, Configuration B is considered environmentally superior to Alternative 5, Haul Route Alternative due to reduced impacts associated with sediment removal and reservoir management; however, Alternative 1, Configuration B will be environmentally inferior to Alternative 5, Haul Route Alternative with impacts associated with traffic and hazardous materials.

Alternative 1, Configuration B will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 associated with removal.

Alternative 1, Configuration B will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities; however, aesthetics, biological resources, and recreation resources of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

4.5 ALTERNATIVE 2, CONFIGURATION C

4.5.1 Alternative Description

Sediment Removal

Alternative 2, Configuration C Alternative excavation activities will remove approximately 4 million cy of current excess sediment in the reservoir in addition to any additional sediment received during the project.

Excavation/Reservoir Configuration

Specific excavation limits and reservoir configuration for Alternative 2, Configuration C are shown in Figure 4.5-1: Alternative 2, Configuration C Sediment Removal and Reservoir Management Areas and will involve two excavation areas. As shown in Figure 4.5-1, the lower excavation area will be excavated to a 985-foot elevation at the face of the dam, sloping up to a 1,045-foot elevation at approximately 2,901 feet north of the dam. The upper excavation area will be excavated to a 1,050-foot elevation at approximately 3,580 feet north of the dam, sloping up to a 1,065-foot elevation at approximately 4,727 feet north of the dam. This configuration in total will involve approximately 84 acres of the reservoir. As part of this Alternative, sediment stockpiled at Johnson Field as part of the IMP will also be removed. Excavation will not involve the Oak Grove area of Hahamongna Watershed Park, the area of the reservoir outside the excavation limits of the two excavation areas, or the City of Pasadena's spreading grounds on the east side of the basin.

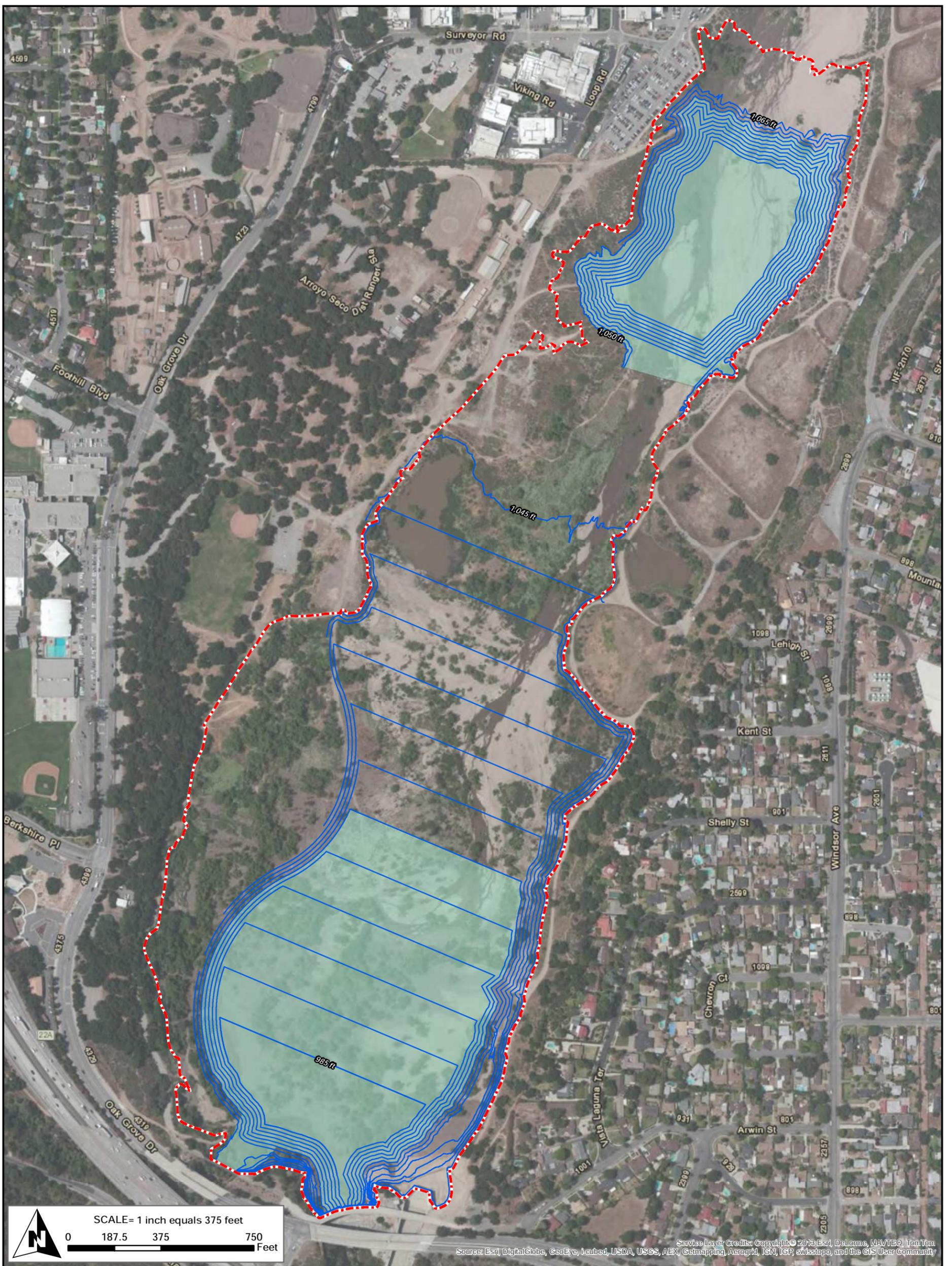
Removal Method

In order to excavate sediment from the reservoir, trees and vegetation growing within the excavation areas or where haul roads are located will need to be removed. In the areas where excavation will not take place, vegetation will not be removed.

The accumulated sediment will be excavated within the limits shown in Figure 4.5-1. The excavation will be accomplished using the same removal method as the Proposed Project. Construction equipment will include but not be limited to approximately four front loaders with 4-yard buckets, two bulldozers, one excavator, one grader, one water truck, and two tender trucks. Vegetation and organic debris will be separated from the sediment. Coarse material may need to be processed through sorters and crushers to be hauled offsite. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within the excavation limits in Devil's Gate Reservoir.

Sediment Disposal

Under this Alternative, excavated sediment will be trucked offsite to the same disposal sites as the Proposed Project. These sites will include the primary disposal site locations: the Waste Management Facility in Azusa, the Vulcan Materials Reliance Facility in Irwindale, and/or the Manning Pit Sediment Placement Site (SPS) located in Irwindale east of the Proposed Project site, or a secondary facility located in Sun Valley west of the Proposed Project site (Sheldon Pit, Sun Valley Fill Site, Bradley Landfill, and/or Boulevard Pit). As with the Proposed Project, it is estimated that the eastern disposal sites will be used from 80 to 100 percent of the time. Use of the Sun Valley sites is estimated to occur from 0 to 20 percent of the time. Removed vegetation and organic debris will be hauled to Scholl Canyon Landfill, located in the City of Glendale.



- Proposed Project Boundary
- Reservoir Management Area
- Sediment Removal Excavation Contours

Figure 4.5-1
Sediment Removal and Management
Areas Map
Alternative 2 - Configuration C

Version Date: 10/21/2013



Sediment Disposal Truck Routes

Alternative 2, Configuration C will use the same sediment disposal truck routes as the Proposed Project and as shown in Figures 2.5-2, 2.5-3, 2.5-4, Proposed Project Haul Routes.

Project Schedule

As with the Proposed Project, sediment removal under Alternative 2, Configuration C will occur between Summer 2015 and Summer 2020; however, sediment removal under this Alternative could potentially have a longer duration than the Proposed Project due to the larger amount of sediment to be removed. Excavation and associated activities within the reservoir area are expected to take place during dryer months, from April to December, Monday through Saturday (except on holidays), as weather permits. During dry years, work could potentially start earlier and/or continue later. Sediment removal activities for Alternative 2, Configuration C will take place Monday through Friday between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday.

Reservoir Management

Alternative 2, Configuration C will have two maintenance areas, involving a total maintenance acreage of approximately 47 acres, with the approximate cut and elevation levels shown in the shaded areas of Figure 4.5-1. The access roads will be maintained to provide proper road width for access.

Vegetation Maintenance

Vegetation within the reservoir management area of the reservoir will be mowed or removed and grubbed annually. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall. All vegetation and sediment outside the reservoir management footprint will be allowed to re-establish and/or remain in place.

FAST Operations

The lower excavation area will be maintained from the face of the dam to approximately 1,504 feet north of the dam using FAST operations. During FAST operations, reservoir inflows from rain events will naturally pass sediment through the reservoir and downstream of the dam. These FAST operations will occur during the winter storm season and will not require mechanical agitation or assistance. FAST operations will reduce sediment accumulation in the reservoir and help maintain flood control capacity. The amount of sediment that will be transported through FAST operations is limited by the smaller sediment grain size that can be moved by the storm runoff received into the reservoir and the subsequent quantities of storm runoff received.

It is anticipated that the majority of these FAST operations will be similar to historic FAST operations and that similar volumes of sediment will pass through the reservoir and into the Arroyo Seco.

Sediment Excavation/Trucking Offsite

The upper excavation area will be maintained through mechanical excavation and offsite trucking activities. These maintenance activities will help keep the upper excavation area available for sediment capture the

following year and improve the ability of the upper excavation area for groundwater recharge. The accumulated sediment will be excavated with construction equipment including but not limited to approximately two front loaders with 4-yard buckets, one bulldozer, one excavator, one grader, one water truck, and two tender trucks (for fuel and maintenance). Vegetation and organic debris will be separated from the sediment. The need for future sediment removal will depend on future storm activity and associated sediment accumulation.

The southern end of the upper excavation area will need to be armored and maintained to prevent erosion through one of two methods:

- Constructing a reinforced concrete structure, or;
- Utilizing large boulders from within the basin to make a grouted river rock protection. Stones of various sizes would be permanently grouted into place to provide erosion protection.

Additionally, directional discharge of flows from the upper excavation area will be possible via adjustable weirs to aid in FASTing efforts. The water leaving the upper excavation area will be “hungry,” since sediment will have settled out in the basin, which will result in those flows helping to FAST from the middle and front areas of the reservoir.

All vegetation and sediment outside the maintenance footprints will be allowed to re-establish and/or remain in place.

As with the Proposed Project, it is estimated, based on past storm events, that sediment excavation/trucking offsite will be required to remove typically 13,000 cy of sediment annually. Based on an estimated removal of 4,800 cy per day, it is expected this will occur over an estimated two-week period, working Monday through Friday. This sediment excavation activity will take place during the late summer/early fall following the vegetation maintenance.

Moderately large sediment deposits have the potential to occur during a storm season with very intense rainfall or following a significant wildfire within the watershed. Such events are expected to occur very infrequently. It is anticipated that even with this type of event the newly deposited sediment could be removed in one season. A moderately large sediment removal event, anticipated to involve approximately 170,000 cy, could take place over an estimated 12-week period during the late summer and early fall following the vegetation maintenance.

4.5.2 Alternative Duration

A large-scale sediment removal project will be required if a significant amount of sediment accumulates in the reservoir or outside the maintenance footprint despite the reservoir management activities. This is not anticipated for a period of over two decades unless major fires and subsequent intense storms occur within the watershed. Sediment outside the maintenance footprint will be monitored to determine if the sediment buildup is exceeding projected volumes. If future reservoir conditions threaten dam operations, LACFCD will initiate the planning process for a new large-scale sediment removal project. Part of this planning will involve utilizing the CEQA process to evaluate and determine the appropriate level of environmental document required for the future project.

4.5.3 Impact Analyses and Comparison to Proposed Project

AESTHETICS

AESTHETICS-1 *Have a substantially adverse effect on a scenic vista.*

Sediment Removal

Sediment removal activities associated with Alternative 2, Configuration C will change the visual characteristics of the reservoir through the removal of sediment and associated vegetation in the reservoir. These changes will be similar to the Proposed Project at the south end of the reservoir; however, these changes will be reduced in magnitude in comparison to the Proposed Project, as Alternative 2, Configuration C will leave a greater area undisturbed along the west side of the reservoir.

As with the Proposed Project, sediment removal activities associated with Alternative 2, Configuration C will not result in obstruction or blockage of views, due to the large difference in elevation between viewpoints and the Proposed Project site.

Construction equipment will be visible in the basin. Views of construction equipment will be expected elements in the viewshed, due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

With sediment removal under Alternative 2, Configuration C, the topography of the reservoir will be lower, especially at the south end of the reservoir; and vegetation within the excavation limits will be removed. These elements will result in a high degree of contrast from existing visual characteristics and will result in a potentially significant impact to scenic vistas. These contrasting elements will be highly visible for Viewpoints 1 through 3. For Viewpoints 1 and 3, however, the co-dominant features of Devil's Gate Dam, the reservoir maintenance roads, electrical lines, the debris boom line, and other less dominant features of the San Gabriel Mountains, Oak Grove Drive, JPL facilities, and residential areas will remain unchanged. In addition, the existing vegetation along the west side of the reservoir will not be removed and will share dominance with the dam and the excavation area.

Sediment removal activities will also be visible from Viewpoint 4 and Viewpoint 5 but will be less dominant due to distance and other more dominant visual elements. The dominant features for Viewpoint 4 (I-210, Devil's Gate Dam, San Gabriel Mountains, and the west side of the reservoir) and Viewpoint 5 (spreading grounds, JPL facilities), will remain unchanged.

As with the Proposed Project, excavation and associated activities within the reservoir area are expected to take place during dryer months, from April to December, as weather permits. During the wetter months, changes to the visual characteristics associated with sediment removal will be slightly less apparent when water is stored in the basin. Some regrowth of riparian vegetation will likely occur during this time. Both these factors will reduce the change in the visual characteristics associated with sediment removal. In addition, as discussed above, sediment removal activities will not introduce view-obstructing features.

Nevertheless, due to the multi-year duration of the sediment removal phase under Alternative 2, Configuration C, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to scenic vistas. While the sediment removal

associated with Alternative 2, Configuration C will result in a potentially significant impact to scenic vistas, the degree of contrast will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

Reservoir Management

As with the Proposed Project, reservoir management will not result in obstruction or blockage of views. Construction equipment will also be visible in the basin but only for short periods of time.

After completion of the proposed sediment removal activities associated with Alternative 2, Configuration C, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. The area available for regrowth will be greater for this alternative than for either reservoir management option under the Proposed Project. Under Alternative 2, Configuration C, approximately 36.86 acres of previously disturbed area will have natural vegetation regrowth; and 47.1 acres of vegetation will be maintained annually. In addition, 36.46 acres that were not disturbed during sediment removal will remain undisturbed. In contrast, under the Proposed Project's reservoir management Option 1, approximately 120.42 acres of vegetation will be maintained annually. Under the Proposed Project's reservoir management Option 2, 33.97 acres of previously disturbed area will have natural vegetation regrowth; and 91.28 acres of vegetation will be maintained annually.

As described above, the majority of the reservoir will be allowed to naturally grow and/or remain in place; and the trees on the border of the reservoir management area are expected to become dominant features within the reservoir. Therefore, reservoir management under Alternative 2, Configuration C will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas. In addition, any contrast associated with this Alternative will be reduced in comparison to either reservoir management option under the Proposed Project, due to the reduction in reservoir management area and associated reservoir management activities.

Mitigation Measures

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation measures, impacts to scenic vistas from sediment removal activities will remain significant.

Reservoir management impacts to scenic vistas will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to impacts on scenic vistas due to the reduction in sediment removal and reservoir management areas and associated activities.

Due to the reduced area of sediment removal and reservoir management areas and associated activities, Alternative 2, Configuration C will be environmentally superior to Alternative 1, Configuration B; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Due to the greater area of sediment removal and reservoir management areas and associated activities, Alternative 2, Configuration C will be environmentally inferior to Alternative 3, Configuration D.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, as views of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

AESTHETICS-2: *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 2, Configuration C will not involve damage to rock outcroppings or historic buildings but will involve removal of vegetation, including native and non-native trees from the site, though to a lesser degree than the Proposed Project. The Proposed Project site is not visible from the only designated state scenic highway in the vicinity of the Proposed Project site, SR-2. Therefore, implementation of this alternative will not damage scenic resources within the viewshed of a designated state scenic highway.

I-210, located to the south of the Proposed Project site, is identified as "Eligible" in the State Scenic Highway Program. Alternative 2, Configuration C will impact the existing visual character of a portion of the viewshed through the removal of vegetation, including native and non-native trees from the site. This impact to visual character of a portion of the viewshed will be reduced in comparison to the Proposed Project due to the reduction in sediment removal and reservoir management areas and associated activities. In addition, views of the Proposed Project site from I-210 are very brief in nature (visibility for approximately 0.3 mile) and are dominated by views of the JPL facilities and San Gabriel Mountains. Implementation of Alternative 2, Configuration C will not obstruct views of these features. Therefore, impacts to scenic resources within this eligible but not designated state scenic highway will be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts After Mitigation Measure

The Proposed Project site is not visible from any designated state scenic highway and is only briefly visible from an eligible state scenic highway; therefore, impacts related to state scenic highways from sediment removal and reservoir management are less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to impacts related to state scenic highways from sediment removal and reservoir management, 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 2, Configuration C will also be environmentally superior to Alternative 1, Configuration B; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project, as views of the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition.

AESTHETICS-3 *Substantially degrade the existing visual character or quality of the site and its surroundings.*

Sediment Removal

As described above under AESTHETICS-1, the proposed sediment removal activities associated with Alternative 2, Configuration C will change the visual characteristics of the existing Proposed Project site through the removal of sediment and associated vegetation in the reservoir.

Disturbed landscape areas, both man-made and natural, are currently found throughout the basin. The amount and distribution of these areas change on a regular basis and are expected visual elements in the Proposed Project site landscape. Construction equipment will also be visible in the basin. Views of construction equipment will be expected elements in the viewshed due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

Sediment and debris management are considered existing operational components of Devil's Gate Reservoir and are not considered potentially significant impacts to the visual characteristics of the site (City of Pasadena 2002). During the sediment removal phase of Alternative 2, Configuration C the disturbed areas will, in large, replace the vegetated areas, resulting in a high degree of contrast between existing and sediment removal conditions. While the open character of the site will remain, the overall visual quality of the Proposed Project site will be lower due to the large-scale alteration and decrease of desirable elements.

Excavation and associated activities within the reservoir area are expected to take place during dryer months, from April to December, as weather permits. During the wetter months, temporary changes to the visual characteristics of the Proposed Project site will be slightly less apparent with water storage in the basin. Some regrowth of riparian vegetation is also likely to occur during this time. Both these factors will reduce the temporary change in the visual characteristics associated with sediment removal. Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to the visual character of the Proposed Project site.

Although the sediment removal associated with this Alternative will result in a potentially significant impact to the visual character of the Proposed Project site, the degree of contrast will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. In addition, approximately 36.46 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include swaths along the west side of the site.

With areas of undisturbed vegetation left throughout, the site will more closely resemble the mix of disturbed and vegetated areas found under existing conditions than with the Proposed Project.

Reservoir Management

As with the Proposed Project, construction equipment will also be visible in the basin but only for short periods of time. After completion of the proposed sediment removal activities associated with Alternative 2, Configuration C, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. Reservoir management under this alternative will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character. The majority of the reservoir will be allowed to naturally grow and/or remain in place, and the trees on the border of the reservoir management area are expected to become dominant features within the reservoir. As described previously, the area requiring vegetation maintenance will be smaller than for either reservoir management option under the Proposed Project. In addition, any contrast associated with this Alternative will be reduced in comparison to either reservoir management option under the Proposed Project, due to the reduction in reservoir management area and associated reservoir management activities.

Mitigation Measure

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation; impacts to visual character from sediment removal activities will remain significant.

Reservoir management impacts to visual character will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to impacts to visual character 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 2, Configuration C will also be environmentally superior to Alternative 1, Configuration B; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, as views of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

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 2, Configuration C 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. Use of sediment removal dump trucks that meet EPA's emission standards for Model Year 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. 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. This impact will be greater in comparison to the Proposed Project due to the increase in excavation volume and associated sediment removal activities.

As with the Proposed Project, reservoir management for Alternative 2, Configuration C 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 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 Alternative 2, Configuration C's combined NO_x emissions during the sediment removal Phase to a level of less than significant.

Reservoir management activities will not violate an air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the Alternative 2, Configuration C during reservoir management will be consistent with the first indicator. No significant impact would occur.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts to air quality plans due to the increase in sediment removal and reservoir management volumes and associated activities.

Due to the increase in sediment removal and reservoir management volumes and associated activities, Alternative 2, Configuration C will also be environmentally inferior to all of the other alternatives.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to 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, emissions of NO_x under Alternative 2, Configuration C 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 2, Configuration C's combined NO_x emissions during sediment removal to a level of less than significant. This impact will be increased in comparison to the Proposed Project due to the increase in excavation volume and associated sediment removal activities.

As with the Proposed Project, reservoir management for Alternative 2, Configuration C 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

Sediment removal will not exceed any standard SCAQMD Regional Threshold except for combined NO_x emissions. Implementation of these mitigations would reduce Alternative 2, Configuration C's combined NO_x emissions during the sediment removal phase to a level of less than significant.

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

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts to air quality standards due to the increase in sediment removal and reservoir management volumes and associated activities.

Due to the increase in sediment removal and reservoir management volumes and associated activities, Alternative 2, Configuration C will also be environmentally inferior to all of the other alternatives.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

AIR QUALITY-3 *Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Sediment Removal/Reservoir Management

Air Quality Plans

As discussed previously, Alternative 2, Configuration C emissions of NO_x are expected to exceed the SCAQMD regional significance thresholds during sediment removal. This exceedance will not be consistent with air quality management plans and therefore will result in a significant cumulative impact. This impact will be greater in comparison to the Proposed Project due to the increase in excavation volume and associated sediment removal activities.

Emissions of VOC, NO_x, PM₁₀, and PM_{2.5} are not expected to exceed the SCAQMD regional significance thresholds during reservoir management. The SCAQMD considers construction-related emissions that do not exceed the project-specific thresholds will not result in a cumulative impact.

Cumulative Health Impacts

As with the Proposed Project, for Alternative 2, Configuration C with Mitigation Measures MM AQ-1 and MM AQ-2, a 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. 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.

Mitigation Measure

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

Residual Impacts After Mitigation

Sediment removal will not exceed any localized significance threshold except for combined NO_x emissions. Implementation of these mitigations would reduce Alternative 2, Configuration C's combined NO_x emissions during the sediment removal phase to a level of less than significant.

Reservoir management will not exceed any localized significance threshold; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts to cumulative health due to the increase in sediment removal and reservoir management volumes and associated activities.

Due to the reduction in sediment removal and reservoir management areas and associated activities, Alternative 2, Configuration C will also be environmentally inferior to all of the other alternatives.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

AIR QUALITY-4 *Expose sensitive receptors to substantial pollutant concentrations.*

Sediment Removal/Reservoir Management

Localized Significance Thresholds

As with the Proposed Project, the onsite emissions for Alternative 2, Configuration C for sediment removal reservoir management activities will not exceed LST thresholds.

Carbon Monoxide Hotspot

As with the Proposed Project, the CO Hotspot analysis for Alternative 2, Configuration C shows no exceedance of the State or federal CO standard; and no significant impact is expected during sediment removal or management.

Carcinogenic Or Toxic Contaminants

As with the Proposed Project, all routes modeled for Alternative 2, Configuration C resulted in less than significant non-cancer- risk from diesel emissions created by Alternative 2, Configuration C.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts to sensitive receptors to substantial pollutant concentrations due to the increase in sediment removal and reservoir management volumes and associated activities.

Due to the increase in sediment removal and reservoir management volumes and associated activities, Alternative 2, Configuration C will also be environmentally inferior to all of the other alternatives.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing, due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

AIR QUALITY-5 *Create objectionable odors affecting a substantial number of people.*

Sediment Removal/Reservoir Management

The CEQA Guidelines indicate that a potentially significant impact would occur if the Proposed Project would create objectionable odors affecting a substantial number of people.

As with the Proposed Project, diesel exhaust for Alternative 2, Configuration C will be emitted from equipment during the sediment removal process. Diesel exhaust is an objectionable odor to some; however, concentrations will disperse rapidly from the Project site (OB-1 2013); therefore impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 2, Configuration C is not expected to produce objectionable odors beyond the Proposed Project site under sediment removal or either reservoir management option; therefore this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts to objectionable odors.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to all of the other alternatives except Alternative 6, No Project Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

BIOLOGICAL RESOURCES

BIOLOGY-1 *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.*

Sediment Removal

As shown in Figure 4.5-2: Alternative 2, Configuration C Sediment Removal Vegetation Communities Impacts and Table 4.5-1, potential impacts to vegetation communities will be reduced in comparison to the Proposed Project due to the reduction in area disturbed during excavation and associated sediment removal activities.

Table 4.5-1: Alternative 2, Configuration C Sediment Removal Impacts to Vegetation Communities

Vegetation Communities	Estimated Acres of Vegetation Removed During Sediment Removal	
	Proposed Project	Alternative 2 Configuration C
Riversidean Alluvial Fan Sage Scrub	1.1	0.2
California Sagebrush – California Buckwheat Scrub	3.1	0.2
Scoured	26.5	20.0
Escaped Cultivars	0.4	0.3
Riparian Woodland	51.4	34.1
Mustard and Annual Brome Semi-Natural Herbaceous Stand	22.8	16.2
Mule Fat Thickets	11.1	9.8
Disturbed	1.9	0.8

Sensitive Plants

No listed or otherwise sensitive plant species were observed on the Proposed Project site. Therefore, as with the Proposed Project, Alternative 2, Configuration C is not expected to have a substantial adverse effect on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Sensitive Wildlife

The Proposed Project site contains habitat and/or potential habitat for five special status species: least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake. Least Bell's vireo, yellow warbler, coast range newt, and two-striped garter snake have all been observed on the Proposed Project site. The southwestern pond turtle has not been observed on the Proposed Project site. If it did occur, habitat for this species would be largely limited to ponded areas.

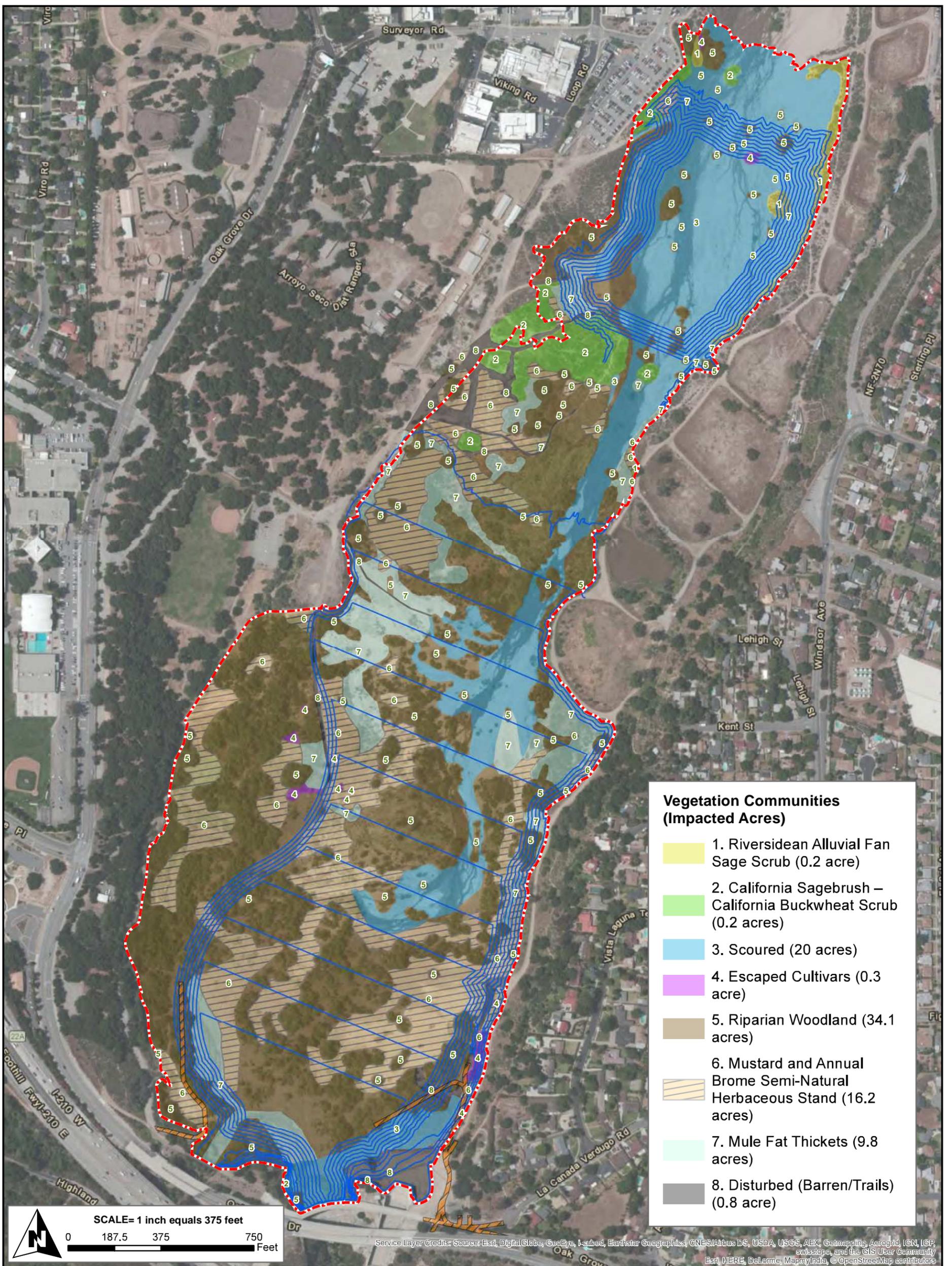
Of the approximately 120.42 acres that will be disturbed under the Proposed Project, approximately 36.44 acres, or 30 percent, will be left undisturbed under Alternative 2, Configuration C. These undisturbed areas will include swaths along the west side of the site that include potential habitat for the five special status species.

As shown in Figure 4.5-2: Alternative 2, Configuration C Sediment Removal Vegetation Communities Impacts and Table 4.5-1, potential impacts to sensitive wildlife will be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities. Disturbance of habitat for the least Bell's vireo within Riparian Woodland and Mule Fat Thickets communities will be reduced by approximately 17.3 acres (33 percent) and 1.3 acres (14 percent), respectively, as compared to the Proposed Project.

Disturbance of habitat for the yellow warbler within the Riparian Woodland community will be reduced by approximately 17.3 acres (33 percent), as compared to the Proposed Project.

Habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake occurs within streams and seasonal ponds found on the Proposed Project site. The amount of this habitat that will be available will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Under Alternative 2, Configuration C, disturbance of habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake is expected to be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities.

Direct harm or take of these species during sediment removal activities would result in a potentially significant impact. The chance of this occurring during sediment removal activities under this alternative is expected to be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. To ensure no harm or take of these special status species, Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3, listed below, have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.



- Proposed Project Boundary
- Access Road
- Sediment Removal Excavation Limit

Figure 4.5-2
Sediment Removal Vegetation
Communities Impacts Map
Alternative 2 - Configuration C

Version Date: 10/16/2014



During sediment removal, tree and vegetation removal has the potential to significantly affect nesting birds and roosting bats if active nests or roosting bats are present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. This impact will be reduced under Alternative 2, Configuration C, as fewer acres of habitats will be removed in comparison to the Proposed Project (see Table 4.5-1). With implementation of Mitigation Measures MM BIO-4 and MM BIO-5, listed below, impacts to nesting birds and roosting bats will be less than significant.

Reservoir Management

Figure 4.5-3: Alternative 2, Configuration C Expected Vegetation Communities Under Reservoir Management shows expected conditions of the vegetation communities under reservoir management for Alternative 2, Configuration C in comparison to the Proposed Project. As shown below, Alternative 2, Configuration C will result in a greater diversity of vegetation communities, including a greater amount of Riparian Woodland and Mule Fat Thickets. Under Alternative 2, Configuration C, a greater area of the Proposed Project site will be left undisturbed during reservoir management, approximately 36.46 acres. In contrast, under the Proposed Project's reservoir management Option 1, the whole Proposed Project site, approximately 120.42 acres, will be disturbed annually. Under the Proposed Project's reservoir management Option 2, 33.97 acres will be left undisturbed during reservoir management.

The reservoir management area for Alternative 2, Configuration C is expected to be composed of Riparian Herbaceous and Mustard and Annual Brome Semi-Natural Herbaceous Stand communities. Streams and seasonal ponds will be available depending upon where sediment accumulates and the amount of flows, rainfall, and runoff. Special status species have the potential to use the reservoir management area.

Direct harm or take of these species during reservoir management activities will result in a potentially significant impact. The chance of this occurring during reservoir management activities under this alternative is expected to be reduced in comparison to either of the Proposed Project's reservoir management options due to the reduction in the reservoir management area. To ensure no harm or take of these special status species occurs, MM BIO-1, MM BIO-2, MM BIO-3, and MM BIO-4 have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During reservoir management, tree and vegetation removal will significantly affect nesting birds and roosting bats, if present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. This impact will be reduced under Alternative 2, Configuration C, as less vegetation will be removed in comparison to the Proposed Project. With implementation of Mitigation Measure MM BIO-6, impacts to nesting birds and roosting bats will be less than significant.

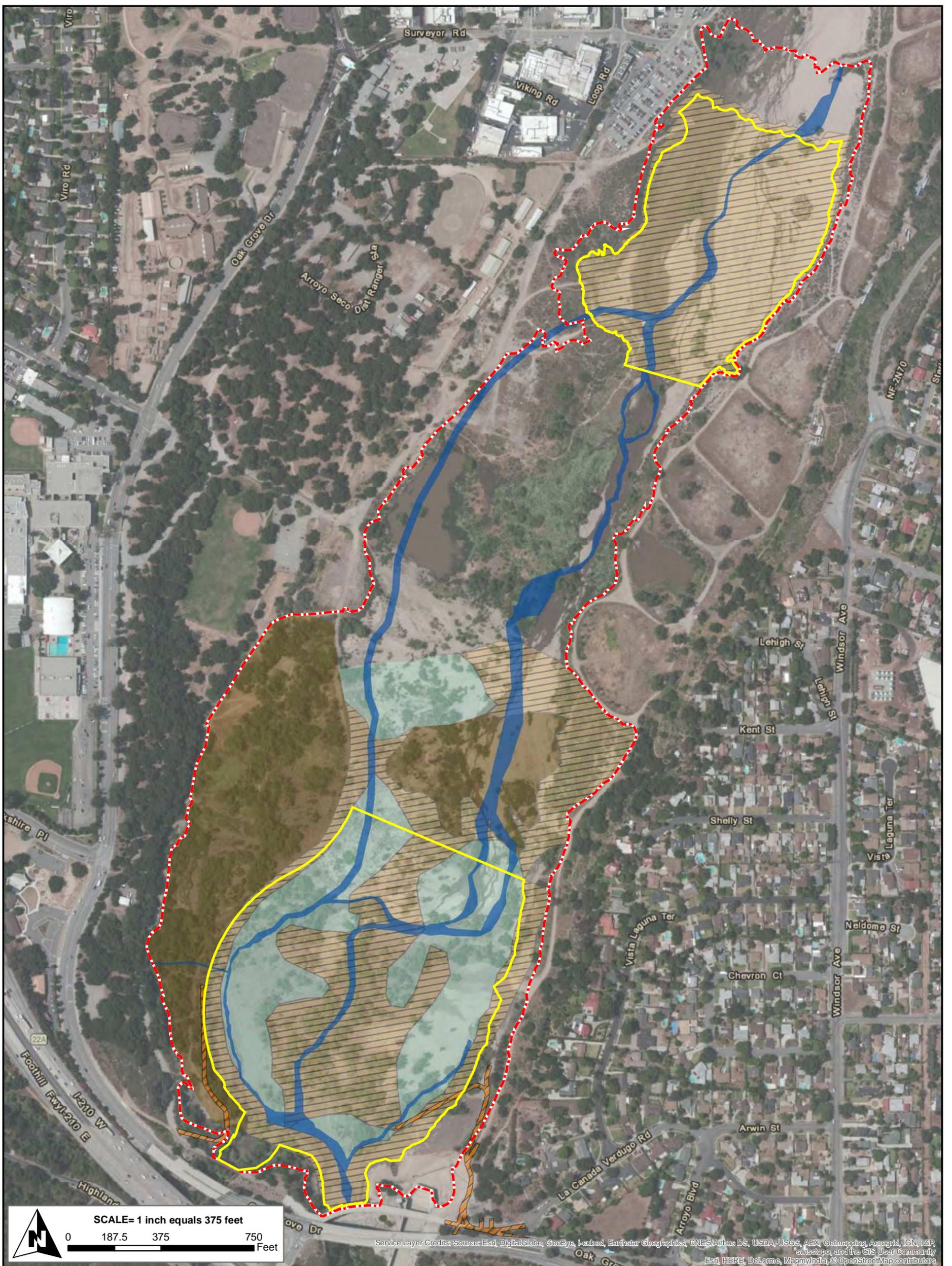


Figure 4.5-3
Expected Vegetation Communities
Under Reservoir Management
Alternative 2 - Configuration C

Version Date: 10/16/2014



- | | | | | |
|---|---------------------------|---|---|-------------------|
|  | Proposed Project Boundary | Vegetation Type |  | Mule Fat Thickets |
|  | Reservoir Management Area |  | Riparian Woodland | |
|  | Access Road |  | Mustard and Annual Brome Semi-Natural Herbaceous Stand | |
|  | Drainage | | | |

Mitigation Measures

MM BIO – 1: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide protection 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 area 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.

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.

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 CNDDDB field data sheet and submitted to CDFW for inclusion into the CNDDDB.

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. Prior to commencement of sediment removal activities within bird breeding season (March 1 through 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.

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 it 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.

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 determined that roosting bats may still be present, trees shall be removed as follows:
 - Pushing the 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

Alternative 2, Configuration C will result in a less than significant impact on candidate, sensitive, or special status species.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C 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 2, Configuration C will also be environmentally superior to Alternative 5, Haul Route Alternative. Alternative 2, Configuration C 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 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C 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 2, Configuration C will impact approximately 0.6 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 1.4 acres (93 percent) as compared to the Proposed Project. To minimize impacts due to loss of Riversidean 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.

This alternative will impact approximately 34.1 acres of Riparian Woodland and 9.8 acres of Mule Fat Thickets within the Proposed Project site. 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 will be reduced by approximately 17.3 acres (33 percent) and 1.3 acre (14 percent), respectively, as compared to the Proposed Project. 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.

Figure 4.5-4: Alternative 2, Configuration C Impacted Water Features shows the water features that will be impacted. Compared to the Proposed Project, Alternative 2, Configuration C will reduce impacts to these water features by approximately 19 percent. To minimize impacts to jurisdictional waters found within these water features, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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. Areas shall be mapped using aerial photographs.

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 trees that will be removed or potentially affected by the Proposed Project and trees that can be avoided. LACFCD will replace trees that cannot be avoided. The replacement is expected to be up to 1:1 by 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.

MM BIO – 8: A combination of onsite and offsite habitat restoration, enhancement, and exotic removal shall be implemented by LACFCD at a 1:1 ratio for impacted sensitive habitat and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. This mitigation measure shall be monitored for success for five years following implementation. A report of the monitoring results shall be submitted annually, during the five years following implementation, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement.

Residual Impacts after Mitigation

Alternative 2, Configuration C, with implementation of Mitigation Measures MM BIO-6 through MM BIO-8, under sediment removal and reservoir maintenance, will result in a less than significant impact on riparian habitat and other sensitive natural communities.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to impacts to riparian habitat and other sensitive natural communities 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 2, Configuration C will also be environmentally superior to Alternative 5, Haul Route Alternative. Alternative 2, Configuration C 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 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C 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

Figure 4.5-4, above, shows the water features that will be impacted by this alternative. Compared to the Proposed Project, Alternative 2, Configuration C will reduce impacts to these water features by approximately 19 percent. To minimize impacts to jurisdictional waters found within these water features, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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 on the Proposed Project site. With implementation of these mitigation measures, impacts to wetlands will be reduced to a level below significance.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C 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 2, Configuration C will also be environmentally superior to Alternative 5, Haul Route Alternative. Alternative 2, Configuration C 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 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C 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-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 2, Configuration C will 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. To minimize impacts to less than significant, Mitigation Measures MM BIO-1 through MM BIO-8 has been provided. 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 be reduced to a level below significance.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C 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 2, Configuration C will also be environmentally superior to Alternative 5, Haul Route Alternative. Alternative 2, Configuration C 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 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C 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 and degradation that will increase over time.

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 2, Configuration C will result in the removal of native trees from the Proposed Project site. This impact will be reduced under Alternative 2, Configuration C, as less vegetation and fewer trees will be removed in comparison to the Proposed Project. Implementation of Mitigation Measure MM BIO-7 will reduce impacts to city-protected trees to a level below significance.

Mitigation Measures

See Mitigation Measure MM BIO-7.

Residual Impacts After Mitigation

Alternative 2, Configuration C will result in a less than significant impact to city-protected trees.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C 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 2, Configuration C will also be environmentally superior to: Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

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

Alternative 2, Configuration C 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.

CULTURAL RESOURCES

CULTURAL-1 *Cause a substantial adverse change in the significance of a historical resource.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no alterations or modifications will be made to any historic resource; and therefore, no significant impact to historical resources is anticipated with this alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No historic resources are within the proposed Project site; therefore Alternative 2, Configuration C will not result in impacts to historic resources.

Comparison to Proposed Project and Other Alternatives

As no historic resources are within the proposed Project site, Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project with respect to historic resources.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives.

CULTURAL-2 *Cause a substantial adverse change in the significance of an archaeological resource.*

Sediment Removal/Reservoir Management

Alternative 2, Configuration C will involve ground-disturbing activities under sediment removal and reservoir management; however, as noted in Section 3.5, most of the soil in the Proposed Project area consists of recently accumulated sediment. In areas filled with recently accumulated sediment, archeological sites are not anticipated to exist, although it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified archeological sites have a potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-1 will reduce potential impacts to less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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 archaeological materials are observed, the excavation in the proximity of the discovery will be diverted until a qualified archaeologist evaluates the discovery.

Residual Impacts After Mitigation

While it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-1, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project with respect to archaeological resources. While the acreage of Alternative 2, Configuration C is smaller, the excavation area in the back basin will be deeper; therefore, impacts will be similar in nature.

Due to the reduction in sediment removal and reservoir management areas, Alternative 2, Configuration C will be environmentally superior to: Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

CULTURAL-3 *Cause a substantial adverse change in the significance of a paleontological resource.*

Sediment Removal/Reservoir Management

No paleontological resources were encountered during the course of the survey and are not expected in the accumulated sediment. It is always possible that unidentified paleontological materials exist in native soil below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified paleontological materials have the potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-2 will reduce impacts to less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is always possible that unidentified paleontological materials exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-2, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project with respect to paleontological resources. While the acreage of Alternative 2, Configuration C is smaller, the excavation area in the back basin will be deeper; therefore, impacts will be similar in nature.

Due to the reduction in sediment removal and reservoir management areas, Alternative 2, Configuration C will be environmentally superior to: Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

CULTURAL-4 *Potentially impact unknown human remains within the proposed project site.*

Sediment Removal/Reservoir Management

As with the Proposed Project, archival research and the archaeological survey in connection with the Proposed Project did not indicate the presence of any known human remains in the project area. In the event human remains are discovered, implementation of Mitigation Measure MM CUL-3 will reduce impacts to less than significant.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is possible that human remains could be discovered in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-3, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project with respect to accidental discovery of human remains. While the acreage of Alternative 2, Configuration C is smaller, the excavation area in the back basin will be deeper; therefore, impacts will be similar in nature.

Due to the reduction in sediment removal and reservoir management areas, Alternative 2, Configuration C will be environmentally superior to: Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

GEOLOGY & SOILS

GEOLOGY-1 *Potentially result in soil erosion or loss of topsoil during sediment removal activities.*

Sediment Removal/Reservoir Management

Alternative 2, Configuration C will involve the excavation and deposition of sediment at facilities already prepared and designated to accept such sediment during sediment removal and reservoir management. Sediment stockpiled at Johnson Field as part of the IMP will also be removed. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within Devil's Gate Reservoir. Disturbed sediments are more susceptible to erosion; however, as discussed above in Air Quality, these impacts will be reduced to less than significant through implementation of SCAQMD Rule 403 and BMPs. In addition, excavation, grading, and sediment placement activities will be in accordance with established

guidelines, permits, and regulations established for each disposal site. As such, sediment removal and reservoir management impacts to erosion will be less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

No mitigation measures will be required.

Residual Impacts After Mitigation

With implementation of SCAQMD Rule 403 and BMPs and the resulting reduction in potential for erosion, no significant impacts to geology and soils would occur as a result of Alternative 2, Configuration C.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to soil erosion due to the reduction in sediment removal and reservoir management areas and associated soil disturbance.

Due to the reduction in sediment removal and reservoir management areas and associated soil disturbance, Alternative 2, Configuration C will also be environmentally superior to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

GREENHOUSE GAS EMISSIONS

GHG EMISSIONS-1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Sediment Removal/Reservoir Management

Alternative 2, Configuration C 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 longer duration than the Proposed Project due to the increased amount of sediment to be removed. Use of sediment removal dump trucks that meet EPA's emission standards for Model Year 2007 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 2, Configuration C will have the same amount of daily equipment usage/truck traffic and increased overall sediment removal duration; therefore, this alternative will generate greater greenhouse gas emissions than the Proposed Project, but will be not "cumulatively considerable," and is therefore less than significant under CEQA.

As with the Proposed Project, Alternative 2, Configuration C may prove a positive effect on climate change. High ambient temperatures coupled with important demand for oxygen due to the degradation of substantial amounts of organic matter favor the production of CO₂, the establishment of anoxic conditions, and thus the production of CH₄. If the reservoir is left as it is, the large quantity of biomass currently existing may exacerbate the condition. With the removal and disposal of most of the organic mass in the Scholl Canyon Landfill, which uses the green waste primarily as “alternative daily cover” (ADC), the overall benefit to the carbon ecosystem will be positive, since prior to using green waste for ADC, larger amounts of cover soil had to be imported into the landfill from offsite sources (Kong et al. 2008). Therefore, use of the green waste as ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. This potential benefit will not be as great under Alternative 2, Configuration C due to the reduction in excavation area and associated vegetation removal.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with the generation of greenhouse gas emissions will occur as a result of Alternative 2, Configuration C.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C will generate greater overall greenhouse gas emissions than the Proposed Project; however, it will not produce as much green waste to be used as ADC. Use of ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project due to overall production of greenhouse gas emissions.

Due to overall production of greenhouse gas emissions, Alternative 2, Configuration C will also be environmentally inferior to: Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 associated impacts from overall production of greenhouse gas emissions.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities and associated production of greenhouse gas emissions.

GHG EMISSIONS-2 *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Sediment Removal/Reservoir Management

AB 32 identified a 2020 target level for GHG emissions in California of 427 MMT of CO₂e, which is approximately 28.5 percent less than the year 2020 BAU emissions estimate of 596 MMT CO₂e. To achieve these GHG reductions, widespread reductions of GHG emissions will have to occur across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. These reductions in mobile-sources and energy production of GHG emissions would occur with or without development of Alternative 2, Configuration C. Overall, Alternative 2, Configuration C will be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. Currently, no other GHG reduction plan (i.e., SCAG, SCAQMD, or County) applies to Alternative 2, Configuration C. As with the Proposed Project, Alternative 2, Configuration C will not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will occur as a result of Alternative 2, Configuration C.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project with respect to applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS AND HAZARDOUS MATERIALS

HAZARDS-1 *Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 2, Configuration C will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

HAZARDS-2 *Create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials into the environment.*

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 2, Configuration C will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-3 *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 2, Configuration C will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. The proposed construction routes pass La Cañada High School and Hillside School and Learning Center. Adherence to County, State, and federal agency regulations governing the use of these materials reduces the potential for impacts to a less than significant level and will not pose a safety hazard to sensitive receptors. No mitigation measures are required.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials within one-quarter mile of an existing school to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 5, Haul Route Alternative and Alternative 6, No Project Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 5, Haul Route Alternative, as the Alternative 2, Configuration C construction routes pass La Cañada High School and Hillside School and Learning Center.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-4 *Located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.*

Sediment Removal/Reservoir Management

The EPA included Hahamongna Watershed Park area on the NPL Superfund List due to the presence of detected VOCs and perchlorate in groundwater originating from the JPL property. The impacted groundwater is at 200 feet bgs; and, as with the Proposed Project, the concentrations of organochlorine pesticides, petroleum hydrocarbons (diesel and hydraulic/motor oil range and aromatics), and SVOCs detected in samples collected from Devil's Gate Reservoir are below regulatory thresholds. Therefore, the listing of the watershed on the Superfund List does not present a significant hazard to the public or

the environment, and no significant impacts associated with the Alternative 2, Configuration C are expected.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS-5 *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Sediment Removal/Reservoir Management

Alternative 2, Configuration C sediment removal and reservoir management activities will occur onsite and will not interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies. Additionally, access to the surrounding roads will be maintained during sediment removal and reservoir management activities and will not interfere with the response facilities located adjacent to the Proposed Project site, including the County of Los Angeles Fire Department Camp 2 and the City of Pasadena Police Department located at 2175 Yucca Lane. Alternative 2, Configuration C will also increase flood control protection downstream of Devil's Gate Dam. No mitigation measures are required.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, as Alternative 6, No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam. This flooding could also potentially interfere with access to roadways.

HYDROLOGY & WATER QUALITY

HYDROLOGY-1 *Violate any water quality standards or waste discharge requirements.*

Sediment Removal/Reservoir Management

FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. During both sediment removal and reservoir management phases, FAST operations will take place during winter rain events, using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. It is anticipated that these FAST operations will be similar to historic FAST operations and that sediment fines discharged during FAST operations will be transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows. As with the Proposed Project, no significant impacts to water quality standards are expected due to FAST operations.

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 2, Configuration C activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

With adherence to regulations and permit requirements and implementation of project-specific BMPs, impacts related to otherwise substantially degrading water quality will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HYDROLOGY-2 *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.*

Sediment Removal/Reservoir Management

As with the Proposed Project, with implementation of Alternative 2, Configuration C the reservoir will have the ability to contain more of the local runoff, which in turn will result in more stormwater penetrating surface sediment in the project area and subsequently recharging the groundwater basin. No significant impacts to groundwater supplies are expected.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant unavoidable adverse impacts would occur as a result of Alternative 2, Configuration C.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project due to the increase in area to contain local runoff and increase in percolation due to increased removal of accumulated sediment.

Alternative 2, Configuration C will also be environmentally superior to all of the other alternatives. Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, due to greater area to contain local runoff and increased percolation due to removal of accumulated sediment.

HYDROLOGY-3 *Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation.*

Sediment Removal/Reservoir Management

Drainage patterns within the reservoir change on a regular basis depending on seasonal conditions, water flow, and sediment deposition. Sediment removal and reservoir management will also result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Excavation, grading, and sediment placement activities will occur under LACDPW regulations, which establish protocols for proper design of slopes and temporary sediment-collecting structures.

Although the drainage characteristics for the site will be altered, Alternative 2, Configuration C will result in a positive impact to drainage of Devil's Gate Reservoir because it will enhance the flood control abilities of Devil's Gate Dam. While Alternative 2, Configuration C will result in a small increase of impervious surface area, this small amount is not expected to significantly change drainage patterns and will not cause a significant increase in the amount of surface runoff. As such, impacts related to offsite erosion will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will result in a less than significant impact on drainage patterns.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except for Alternative 4, Sluicing. Alternative 2, Configuration C will be environmentally superior to Alternative 4, Sluicing due to the potential for erosion associated with the sluicing alternative.

HYDROLOGY-4 *Otherwise substantially degrade water quality.*

Sediment Removal/Reservoir Management

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 2, Configuration C activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

LAND USE & PLANNING

LAND USE-1 *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Sediment Removal

As with the Proposed Project, Alternative 2, Configuration C will not conflict with the City's General Plan or zoning designation of Open Space for the Proposed Project site and is consistent with the LACFCD easement.

As discussed in Subsection 3.8.3, Applicable Regulations, the HWPMP emphasizes protection of recreational and natural resources as well as the management of flood control for the downstream watershed. Alternative 2, Configuration C is consistent with HWPMP Goal 2 of managing the flood control basin for protection of the downstream areas by improving and maintaining the flood capacity behind Devil's Gate Dam.

Implementation of sediment removal and reservoir management will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities (see further discussion below in Recreation). With implementation of Mitigation Measure MM LAN-1, impacts associated with recreational activities coexisting with flood management and water conservation will be reduced to less than significant.

Mitigation Measures

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.

Residual Impacts After Mitigation

Impacts associated with recreational activities coexisting with flood management and water conservation would be reduced to less than significant for sediment removal and reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to impacts to land use associated with compatibility to recreation 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 2, Configuration C will also be environmentally superior to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 6, No Project Alternative; however, recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

MINERAL RESOURCES

MINERALS-1 *Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.*

Sediment Removal/Reservoir Management

The Proposed Project site contains areas delineated within SMARA zone designated MRZ-2, which indicates that the area contains adequate information to indicate that significant mineral deposits are present or are judged to have a high likelihood for their presence (City of Pasadena 2002). As with the Proposed Project, under Alternative 2, Configuration C, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment removal is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will not result in any potentially significant impacts to mineral resources that will be of value to the region and residents of the State.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C will also be neither environmentally superior nor inferior to any of the other alternatives.

MINERALS-2 *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

While the Arroyo Seco Master Plan EIR (2002) states that the reservoir may contain large quantities of arroyo stone, the Proposed Project site is not delineated as a locally important mineral resource recovery site on a local general plan, specific plan, or other local land use plan. As with the Proposed Project, under Alternative 2, Configuration C, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment excavation is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will not result in any potentially significant impacts to availability of a locally important mineral resource recovery site.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to any other alternative.

NOISE & VIBRATION

NOISE-1 *Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Sediment Removal/Reservoir Management

Onsite Construction Equipment Noise

Alternative 2, Configuration C sediment removal activities will take place Monday through Friday between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday. This alternative will use the same amount and type of construction equipment as the Proposed Project. Since the removal of sediment activities will require a greater amount of equipment than the reservoir management activities, calculations for onsite construction equipment noise have been based on the sediment removal activities equipment list.

Noise impacts from onsite construction equipment activities associated with Alternative 2, Configuration C will be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. Construction noise impacts will be the same as those associated with the Proposed Project to the nearby sensitive receptors and are shown below in Table 4.5-2.

Table 4.5-2: Alternative 2 Onsite Construction Equipment Noise Levels at Nearby Sensitive Receptors

Receptor Description	Receptor Jurisdiction	Distance to Receptor (feet)	Construction Noise Levels ¹	
			dBA Leq	dBA L _{max}
Single-Family Home	Pasadena	140	71	73
Single-Family Home	Los Angeles County	180	69	71
JPL Office	La Cañada Flintridge	200	68	70
Hahamongna Watershed Park	Pasadena	20	86	90
La Cañada High School	La Cañada Flintridge	430	63	63
La Cañada Methodist Church	La Cañada Flintridge	500	62	62

Notes:

¹ L_{max} is based on the maximum noise from the loudest piece of equipment and the Leq is the average noise from all equipment.

Source: RCNM, Federal Highway Administration, 2006

Table 4.5-2, above, shows that construction noise impacts will range from 62 dBA Leq to 86 dBA Leq at the nearby receptors, with the highest noise levels occurring at the portion of Hahamongna Watershed Park that is adjacent to the west side of the reservoir.

The City of Pasadena exempts public agencies from the Municipal Code noise requirements. The County of Los Angeles exempts flood control maintenance and construction operations from noise restrictions. The City of La Cañada Flintridge does not provide maximum noise thresholds of construction noise that occurs during the allowed times between Monday through Friday of 7:00 a.m. to 6:00 p.m. Standard Time and 7:00 a.m. to 7:00 p.m. Daylight Savings Time and on Saturday between 7:00 a.m. and 5:00 p.m. Therefore, Alternative 2, Configuration C will comply with all local ordinances that apply to sediment removal and reservoir management activities taking place during the allowed hours.

Offsite Vehicular Noise

Alternative 2, Configuration C sediment removal and reservoir management activities will generate the same number of daily haul truck trips as the Proposed Project: up to 425 daily round trips and 200 daily round trips, respectively. Therefore, Alternative 2, Configuration C potential offsite traffic noise impacts created by the offsite vehicle trips will be the same as those generated from the Proposed Project; however, due to the longer time frame for removing the material the impact will be increased. Overall, as with the Proposed Project, roadway noise impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 2, Configuration C will comply with all local noise ordinances and roadway noise impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts associated with noise levels due to the longer time frame for removing the material.

Due to the longer time frame for removing the material, Alternative 2, Configuration C will also be environmentally inferior to: Alternative 1, Configuration B; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 2, Configuration C could 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 downstream associated with removal activities.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-2 *Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Sediment Removal/Reservoir Management

As with the Proposed Project, only the nearby single-family homes in the City of Pasadena would experience vibration levels that would exceed the 0.01-inch-per-second vibration standard. This potentially significant impact will be reduced to less than significant through implementation of Mitigation Measure MM N-1; however, this impact will be increased in comparison to the Proposed Project, as sediment removal under this alternative is expected to have a longer duration.

Mitigation Measures

MM N-1: 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.

Residual Impacts After Mitigation

Through implementation of Mitigation Measure MM N-1, the onsite construction equipment vibration impacts to nearby sensitive receptors would be reduced to less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts associated with vibration levels due to the longer time frame for removing the material.

Due to the longer time frame for removing the material, Alternative 2, Configuration C will also be environmentally inferior to all other alternatives, including Alternative 6, No Project Alternative.

NOISE-3: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Sediment Removal/Reservoir Management

Alternative 2, Configuration C will not create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing noise levels. For this analysis, both the sediment removal activities and reservoir management activities have been considered as temporary activities, since they would occur only for limited durations of time. The construction activities associated with the removal of the sediment may create temporary onsite noise impacts from the operation of construction equipment as well offsite noise impacts from the use of haul trucks to export material offsite.

Onsite Construction Equipment Noise

As with the Proposed Project, the onsite equipment that will be operated under Alternative 2, Configuration C will not conflict with any construction noise standards. Any temporary noise level increase from onsite construction noise will be less than significant. Therefore, Alternative 2, Configuration C's potential noise levels from onsite construction will be the same as those generated from the Proposed Project; however, due to the longer time frame for removing the material the impact will be increased.

Offsite Vehicular Noise

As with the Proposed Project, the offsite vehicular trips associated with Alternative 2, Configuration C will not create an exceedance of the normally acceptable noise standards for nearby sensitive land uses for locations that do not already exceed the standards for existing conditions. The analysis also found that for the locations that currently exceed the normally acceptable noise standard, Alternative 2, Configuration C's noise contribution to these roadway segments will be within the Federal Transit Administration's allowable noise exposure increase levels. Therefore, the temporary noise level increase created from offsite vehicular noise will result in a less than significant impact. Therefore, Alternative 2, Configuration C's potential impact from offsite vehicular noise will be the same as those generated from the Proposed Project; however, due to the longer time frame for removing the material the impact will be increased.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Temporary noise level increase from onsite construction noise and offsite vehicular noise would be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project with respect to impacts associated with noise levels due to the longer time frame for removing the material.

Due to the longer time frame for removing the material, Alternative 2, Configuration C will also be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 3, Configuration D could 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 downstream associated with removal activities.

Alternative 2, Configuration C, will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

RECREATION/PUBLIC SERVICES

RECREATION-1 *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Alternative 2, Configuration C will not result in the construction of new residences, or facilitate the development of residences, or result in an increase in area population. Therefore, implementation of the Alternative 2, Configuration C will not result in increased use or the physical deterioration associated with increased use for neighborhood or regional parks or other recreational facilities due to any increases in area population.

Sediment Removal Impacts

As with the Proposed Project, under Alternative 2, Configuration C sediment removal will occur over the course of five years. During this, most of the Proposed Project site will be closed to public use from the dam face to the edge of this Alternative's excavation limit boundaries (see Figure 4.5-1). Alternative 2, Configuration C will have a potential impact on recreational opportunities through temporarily restricted access to trails and long-term alteration of the landscape. Maintenance roads within the basin are used by the LACFCD, Southern California Edison (SCE), and the City of Pasadena, among others, for operations and maintenance of Devil's Gate Reservoir and other facilities in the area. The majority of the maintenance roads will be closed during sediment removal; however, these roads are not officially designated for recreational uses and are often not available for unofficial recreation use due to reservoir water levels or maintenance activities.

Designated Recreational Uses

As detailed below, implementation of sediment removal will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities. These impacts may increase the use of other area parks and recreational facilities such as those described in Table 3.15-1.

The Oak Grove area of Hahamongna Watershed Park and the associated facilities including Oak Grove Disk Golf Course will remain open during sediment removal and will continue to provide active recreational facilities to the area. Sediment removal activities will not limit the use of the Oak Grove

area of Hahamongna Watershed Park by individuals or by organizations such as the Oak Grove Disc Golf Club, the Rose Bowl Riders, MACH 1, or the Tom Sawyer Camp.

Activities such as hiking, biking, horseback riding, bird watching, and nature walks will be limited to trails located outside the excavation boundary or to trails opened in absence of removal activities. Of the six designated trails in and adjacent to the Proposed Project site, three of these trails, Flint Wash Trail, Gabrielino Trail, and Gould Canyon Trail, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Small portions of the Altadena Crest Trail, Arroyo Seco Trail, and West Rim Trail will either be closed when sediment removal activities are under way and/or are near the trail. A very small portion of the Altadena Crest Trail will be closed during the whole sediment removal phase.

Figure 4.5-5: Alternative 2, Configuration C Impacts to Designated Trails shows the location of the different access conditions during sediment removal. Sediment removal activities associated with this alternative will not limit or block access to the Oak Grove area and many of the designated trails and will not result in direct significant impacts to these facilities; however, use of these facilities may be less desirable due to construction-related emissions, noise, and dust, visual, and traffic impacts associated with sediment removal. These temporary, indirect impacts will reduce the quality of the recreational experience.

Indirect impacts to recreation associated with sediment removal under Alternative 2, Configuration C will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. In addition, approximately 36.44 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include swaths along the west side of the site. These areas of undisturbed vegetation left throughout will serve to screen some of the ongoing recreation uses from the sediment removal activities and associated construction-related emissions, noise, dust, and visual impacts. Recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities. Due to the number of other recreational facilities and trails in the vicinity, it is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 2, Configuration C will not increase use of other existing parks or recreation facilities such that substantial physical deterioration of these facilities will occur or be accelerated. Impacts to other existing parks and recreation facilities will be temporary and less than significant. Sediment removal under this Alternative could potentially have a longer duration than the Proposed Project due to the increased amount of sediment to be removed. This longer duration could potentially increase the temporary and less than significant impacts to other existing parks and recreation facilities.



- Access Road
- Sediment Removal Excavation Limit
- Trail & Maintenance Road Closures**
- Closed during the full duration of sediment removal
- To remain open during sediment removal
- Closed during sediment removal with possible opening on a seasonal basis
- Temporarily closed while sediment removal is occurring in the area

Figure 4.5-5
Impacts To Designated Trails Map
Alternative 2 - Configuration C

Version Date: 10/4/2013



Reservoir Management Impacts

After the annual proposed reservoir management, access to Devil's Gate Reservoir will be similar to existing conditions. Every year the reservoir will be temporarily closed to public access for reservoir management. This will occur during the late summer/early fall over an estimated five-week period, Monday through Friday. The length of time will vary depending on the amount of sediment deposited in the reservoir over the course of the year. The Oak Grove area of Hahamongna Park and most of the designated trails will remain open during reservoir management activities and will continue to provide active recreational facilities to the area. The proposed reservoir management activities will typically occur only during the weekdays; therefore, weekend visitors of the Hahamongna Watershed Park will not be affected by the proposed reservoir management activities. Trails will be beneficially affected in the long-term through the reduction of potential disruption by flooding and/or being buried under sediment. Impacts to existing parks and recreation facilities associated with Alternative 2, Configuration C reservoir management activities will be less than significant. In addition, the reservoir management area under Alternative 2, Configuration C will be much smaller than under either Proposed Project reservoir management option. Since trucking is the only reservoir management method that can be used to clean out the back basin, Alternative 2, Configuration C may contribute more direct impacts to existing parks and recreational facilities during sediment management.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will not result in any potentially significant impacts associated with increased use of other existing parks or recreation facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with respect to recreation uses due to the reduction in reservoir management areas and associated activities.

Due to the reduction in reservoir management areas and associated activities, Alternative 2, Configuration C will also be environmentally superior to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D due to increased sediment removal and reservoir management activities.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

RECREATION-2 *Require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment.*

As discussed in detail above under RECREATION-1, recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of

construction-related activities during reservoir management activities. It is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 2, Configuration C will not require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment, resulting in a less than significant impact. Sediment removal under this Alternative could potentially have a longer duration than the Proposed Project due to the increased amount of sediment to be removed. This increased duration could potentially increase the temporary and less than significant impact to other existing parks and recreation facilities.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project due to the reduction in reservoir management areas and associated activities.

Due to the reduction in sediment removal and reservoir management areas and associated activities, Alternative 2, Configuration C will also be environmentally superior to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D, due to sediment removal and reservoir management activities.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

PUBLIC SERVICES-1 *Result in substantial adverse impacts associated with the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.*

As discussed in detail above under RECREATION-2, Alternative 2, Configuration C will not result in a substantial increase in use of any one park or facility. Therefore, Alternative 2, Configuration C will not require the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally superior to the Proposed Project due to the reduction in reservoir management areas and associated activities.

Due to the reduction in reservoir management areas and associated activities, Alternative 2, Configuration C will also be environmentally superior to Alternative 4, Sluicing and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D due to sediment removal and reservoir management activities.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

TRANSPORTATION & TRAFFIC

TRANSPORTATION-1 *Conflict with an applicable plan, ordinance, or policy establishing measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Sediment Removal

Truck traffic associated with the Alternative 2, Configuration C is expected to adhere to traffic regulations; however, during sediment removal, Alternative 2, Configuration C truck traffic is expected to impact traffic LOS on the existing roadway network. Potential impacts regarding existing LOS are discussed under TRANSPORTATION-2 below. This increase in traffic would result in temporary significant impacts to the efficiency of the circulation system. Implementation of Mitigation Measures MM TRA-1 and TRA-2 would reduce this temporary impact but not to a level of less than significant.

Sediment removal and associated transportation under this Alternative could potentially have a longer duration than the Proposed Project due to the greater amount of sediment to be removed. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant.

Reservoir Management

Truck traffic associated with reservoir management is not expected to adversely affect traffic LOS on the existing roadway network. Therefore, impacts to the efficiency of the circulation system would be less than significant.

Mitigation Measures

MM TRA-1: Proposed Project haul trucks will not deliver to the Vulcan Material Reliance Facility during the PM peak period.

MM TRA-2: Proposed Project haul trucks will not deliver to the Boulevard Pit during the PM peak period.

Residual Impacts after Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce impacts to traffic and circulation but not to a level of less than significant. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project due to the greater amount of sediment removal and the trucking necessary for reservoir management.

Due to the increase in reservoir management volumes, Alternative 2, Configuration C will be environmentally inferior to Alternative 1, Configuration B; Alternative 3, Configuration D and Alternative 5, Haul Route Alternative.

Alternative 2, Configuration C will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 transportation associated with removal activities.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

TRANSPORTATION-2 *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Sediment Removal

As with the Proposed Project, Alternative 2, Configuration C will not significantly impact freeway segments and freeway on- and off-ramps but will significantly impact the following intersections:

- Berkshire Place and I-210 eastbound ramps during the AM peak period;
- Irwindale Avenue/Foothill Boulevard intersection during the PM peak hour;
- Figueroa St/Scholl Canyon Road and SR-134 westbound ramps during the AM and PM peak hours;
- Glenoaks Boulevard/Osborne Street intersection during the AM and PM peak hours;
- Sheldon Street and San Fernando Road intersection during the PM peak hour; and
- Branford Street and San Fernando Road intersection during the PM peak hour.

In order to reduce the impacts to the Berkshire Place and I-210 eastbound ramps intersection during the AM peak period, sediment removal trucks would have to use an alternative route during this period. This alternative route would involve as follows: Loaded trucks will exit the reservoir on the improved, existing westerly access road, turning left onto southbound Oak Grove Drive, then right onto westbound Windsor Avenue, and then east onto I-210 east, to disposal sites in Azusa and Irwindale or I-210 west to the Sun Valley disposal sites.

Under this route all the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections for the AM Peak Period; however, use of this alternative route would require implementation of the following potential impact reduction measure:

- Proposed Project haul trucks would avoid using the Berkshire Place and I-210 eastbound ramps intersection during the AM peak period by instead using the Windsor/Arroyo and I-210 ramps. This would require the median on Oak Grove Drive to be restriped to a Two Way Left Turn Lane (TWLTL). The changes to Oak Grove Drive would require the approval of the City of Pasadena.

The impact reduction measure discussed above cannot be legally imposed by the LACFCD since the location is under the jurisdiction of the City of Pasadena. Every reasonable effort will be made to coordinate with and receive approval to implement this impact reduction measure; however, LACFCD cannot guarantee that this impact reduction measure will be implemented. Therefore this temporary impact would remain potentially significant.

The Irwindale Avenue/Foothill Boulevard intersection is anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact. Mitigation Measure MM TRA-1 would reduce the impact to the Irwindale Avenue/Foothill Boulevard intersection to less than significant.

The Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact. Reducing this impact to less than significant would require implementation of the following potential impact reduction measure:

- Figueroa Street/Scholl Canyon Road and SR-134 westbound ramps: Restripe the westbound right turn lane to a shared left-right turn lane and the northbound through lane to a shared through-right turn lane. The northbound direction will include a shared through-right turn lane and a right turn lane. The southbound direction will include a shared through-left turn lane and a through turn lane. The westbound direction will include a left turn lane and a shared left-right turn lane. This impact reduction measure will require the approval of the City of Los Angeles and Caltrans.

Implementation of the impact reduction measure discussed above would reduce the impact to the Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection to less than significant. This impact reduction measure cannot be legally imposed by the LACFCD. Every reasonable effort will be made to coordinate with and receive approval to implement the impact reduction measure; however, LACFCD cannot guarantee that the measure will be implemented therefore this temporary impact could remain significant.

The Glenoaks Boulevard and Osborne Street intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact.

The Sheldon Street and San Fernando Road intersection and the Branford Street and San Fernando Road intersection are anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in temporary significant impacts. Mitigation Measure MM TRA-2 would reduce the impacts to less than significant.

Reservoir Management

The reservoir management associated with Alternative 2, Configuration C would require periodic management activities at the Devil's Gate Reservoir. Depending on storm events, sediment excavation/trucking offsite may be required over a period of a few weeks annually. Daily truck traffic is expected to be half the amount that will occur during sediment removal. Due to the limited time period and the reduced truck traffic, reservoir management activities are not expected to adversely affect traffic level of service on the existing roadway network. Therefore, impacts would be less than significant.

Mitigation Measures

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less

than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project due to the increase in sediment removal and reservoir management volumes.

Due to the increase in sediment removal and reservoir management volumes, Alternative 2, Configuration C will also be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D.

Alternative 2, Configuration C will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 transportation associated with removal activities.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

TRANSPORTATION-3 *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Sediment Removal

Implementation of Alternative 2, Configuration C may include impact reduction measures described above that would require modifications to the existing roadway network. These modifications would consist of roadway restriping to reduce potential traffic impacts to a level less than significant. These changes would not alter existing roadway use and would be implemented consistently with all applicable traffic safety standards. Alternative 2, Configuration C is limited to excavation and transportation of sediment that has accumulated in Devil's Gate Reservoir and would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, impacts related to traffic hazards would be less than significant.

Reservoir Management

The reservoir management associated with Alternative 2, Configuration C would not require any modifications to the existing roadway network and would not introduce any new uses that would be incompatible with the existing roadway system. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project or any of the other alternatives as it would not introduce any new uses that would be incompatible with the existing roadway system.

TRANSPORTATION-4 *Result in inadequate emergency access.*

Sediment Removal/Reservoir Management

Alternative 2, Configuration C would not sever or otherwise block access to any existing roadways. No equipment staging will occur on public roadways during construction of the Proposed Project. The impact to emergency access would be a less than significant impact.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project or any other alternative except for Alternative 6, No Project Alternative.

Alternative 2, Configuration C will be environmentally superior to Alternative 6, No Project Alternative as the No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

TRANSPORTATION-5 *Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Sediment Removal

Alternative 2, Configuration C would be confined to the roadway network described in Section 3.16.2 and would not adversely affect alternative modes of public transportation such as light rail. Implementation of Alternative 2, Configuration C would not require closure of any bus stops or disrupt any existing bus routes. The degrading of LOS at intersections, freeway segments, and freeway on- and

off-ramps described above under TRANSPORTATION-2 could affect buses using the existing roadway network. This would be a temporary potentially significant impact.

Reservoir Management

The reservoir management associated with Alternative 2, Configuration C would require periodic management activities at Devil's Gate Reservoir that would not adversely affect traffic level of service on the existing roadway network that could delay bus services. Therefore, reservoir management impacts would be less than significant.

Mitigation Measures

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project due to the increase in sediment removal and reservoir management volumes.

Due to the increase in sediment removal and reservoir management volumes, Alternative 2, Configuration C will also be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D.

Alternative 2, Configuration C will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 transportation associated with removal activities.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

UTILITIES & SERVICE SYSTEMS

UTILITIES-1 *Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Sediment Removal

As with the Proposed Project, Alternative 2, Configuration C will not result in or require the construction of new or expansion of existing stormwater drainage systems during sediment removal. Sediment and vegetation removal operations will result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Although the drainage characteristics for the site will be altered, the project overall will result in a positive impact to drainage of Devil's Gate Reservoir because it will help restore the flood control capacity of Devil's Gate Dam and Reservoir. As with the Proposed Project, Alternative 2, Configuration C will add minimal impermeable surface area to the Proposed Project site through paving a portion of the access roads from Oak Grove Drive. This minimal increase in impervious surface area will not result in any significant increase in stormwater runoff that will require new stormwater drainage facilities.

In addition, these activities will not directly involve the existing storm drain outfalls, power lines, gas line, communication lines, water lines, sewer lines, or water wells. Impacts to these utility facilities will be avoided through compliance with City regulations regarding utility facilities, coordination with utility providers, and implementation of LACDPW BMPs.

Reservoir Management

During reservoir management, Alternative 2, Configuration C will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment that accumulates at the front of the reservoir after the proposed removal will be removed through FAST operations or through mechanical excavation, and sediment accumulated at the back basin will be removed through trucking. The FAST operations are expected to be similar to historic FAST operations, and sediment fines discharged through FAST operations will be transported during storm flows to the Pacific Ocean via Arroyo Seco and the Los Angeles River. No impacts to stormwater facilities are expected during FAST operations. Any necessary mechanical removal during reservoir management is expected to be small (typically 13,000 cy per year). Impacts to stormwater facilities during mechanical removal will be avoided through compliance with City regulations regarding stormwater facilities and implementation of LACDPW BMPs.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 2, Configuration C will not result in any potentially significant impacts to utility facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 2, Configuration C is considered neither environmentally superior nor inferior to the Proposed Project or to any of the other alternatives.

4.5.4 Conclusion and Relationship to Project Objectives

Alternative 2, Configuration C will meet the Proposed Project's objectives of satisfactorily reducing flooding risk, creating a configuration suitable for routine operations and maintenance, reducing the possibility of plugging at the dam face, removing sediment from Johnson Field, removing sediment in a timely manner, and delivering sediment to facilities already prepared to accept sediment.

Alternative 2, Configuration C is considered environmentally inferior to the Proposed Project due to increased impacts associated with sediment removal and reservoir management due to a larger volume of sediment removal. Alternative 2, Configuration C is considered environmentally superior to the Proposed Project with impacts associated with Aesthetics, Biology, and Land Use and Planning.

Due to the increase in sediment removal and reservoir management areas, Alternative 2, Configuration C will also be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D.

Alternative 2, Configuration C is considered environmentally superior to Alternative 5, Haul Route Alternative due to reduced impacts associated with sediment removal and reservoir management. Alternative 2, Configuration C will be environmentally inferior to Alternative 5, Haul Route Alternative with impacts associated with traffic.

Alternative 2, Configuration C will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 associated with removal activities.

Alternative 2, Configuration C will be environmentally inferior to Alternative 6, No Project, due to sediment removal and reservoir management activities; but aesthetics, biological resources, and recreation resources of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

4.6 ALTERNATIVE 3, CONFIGURATION D

4.6.1 Alternative Description

Alternative 3, Configuration D, Option 1

Sediment Removal

Alternative 3, Configuration D, Option 1 excavation activities will remove approximately 2.4 million cy of current excess sediment in the reservoir in addition to any additional sediment received during the project.

Excavation/Reservoir Configuration

Specific excavation limits and reservoir configuration for Alternative 3, Configuration D, Option 1 are shown in Figure 4.6-1: Alternative 3, Configuration D, Option 1 Sediment Removal and Reservoir

Management Areas. As shown in Figure 4.6-1, the basin will be excavated to an elevation of approximately 985 feet at the face of the dam, sloping up to a 995-foot elevation where the basin splits and narrows into two excavation branches. Both branches slope up to a 1,040-foot elevation, at which point the western branch ends and the eastern branch widens and continues to slope up to a 1,060-foot elevation at approximately 4,700 feet north of the dam. The final configuration will involve approximately 76 acres of the reservoir. Additionally, this alternative will include removal of sediment stockpiled as part of the IMP at Johnson Field. Excavation will not involve the Oak Grove area of Hahamongna Park, the area of the reservoir outside the excavation limits shown in Figure 4.6-1, or the City of Pasadena's spreading grounds on the east side of the basin.

Alternative 3, Configuration D, Option 2

Sediment Removal

Alternative 3, Configuration D, Option 2 excavation activities will remove approximately 2.4 million cy of current excess sediment in the reservoir in addition to any additional sediment received during the project.

Excavation/Reservoir Configuration

Specific excavation limits and reservoir configuration for Alternative 3, Configuration D, Option 2 are shown in Figure 4.6-2: Alternative 3, Configuration D, Option 2 Sediment Removal and Reservoir Management Areas. As shown in Figure 4.6-2, the basin will be excavated to an elevation of approximately 985 feet at the face of the dam, sloping up to a 995-foot elevation where the basin narrows into one excavation branch. The branch, which is in the eastern portion of the reservoir, slopes up to a 1,060-foot elevation at approximately 4,700 feet north of the dam. The final configuration will involve approximately 70 acres of the reservoir. Additionally, this alternative will include removal of sediment stockpiled at Johnson Field as part of the IMP. Excavation will not involve the Oak Grove area of Hahamongna Park, the area of the reservoir outside the excavation limits shown in Figure 4.6-2, or the City of Pasadena's spreading grounds on the east side of the basin.

Removal Method

In order to excavate sediment from the reservoir, trees and vegetation growing within the excavation areas or where haul roads are located will need to be removed. In the areas where excavation will not take place, including between the two excavation branches, vegetation will not be removed. To facilitate storm flows, a slightly steeper gradient than used with the Proposed Project will be used on the excavation branches.

The accumulated sediment will be excavated within the limits shown in Figure 4.6-1 for Alternative 3, Configuration D, Option 1 and shown in Figure 4.6-2 for Alternative 3, Configuration D, Option 2. The excavation will be accomplished using the same removal method as the Proposed Project. Construction equipment will include but not be limited to approximately four front loaders with 4-yard buckets, two bulldozers, one excavator, one grader, one water truck, and two tender trucks. Vegetation and organic debris will be separated from the sediment. Coarse material may need to be processed through sorters and crushers to be hauled offsite. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within the excavation limits in Devil's Gate Reservoir.

Sediment Disposal

Under Alternative 3, Configuration D, excavated sediment will be trucked offsite to the same disposal sites as the Proposed Project. These sites will include the primary disposal site locations, the Waste Management Facility in Azusa, the Vulcan Materials Reliance Facility in Irwindale, and/or the Manning SPS located in Irwindale east of the Proposed Project site; or a secondary facility located in Sun Valley west of the Proposed Project site (Sheldon Pit, Sun Valley Fill Site, Bradley Landfill, and/or Boulevard Pit). As with the Proposed Project, it is estimated that the eastern disposal sites will be used from 80 to 100 percent of the time. Use of the Sun Valley sites is estimated to occur from 0 to 20 percent of the time. Removed vegetation and organic debris will be hauled to Scholl Canyon Landfill, located in the City of Glendale.

Sediment Disposal Truck Routes

Alternative 3, Configuration D will use the same sediment disposal truck routes as the Proposed Project and as shown in Figures 2.5-2, 2.5-3, 2.5-4, Proposed Project Haul Routes.

Project Schedule

As with the Proposed Project, sediment removal under Alternative 3, Configuration D will occur between Summer 2015 and Summer 2020; however, sediment removal under this Alternative could potentially have a shorter duration than the Proposed Project due to the reduced amount of sediment to be removed. Excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, Monday through Saturday (except on holidays), as weather permits. During dry years, work could potentially start earlier and/or continue later. Alternative 3, Configuration D sediment removal activities will take place Monday through Friday between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday.

Reservoir Management

Alternative 3, Configuration D will manage sediment in a method similar to the Proposed Project to reduce buildup of sediment in the reservoir management area and eliminate or substantially reduce the occurrence of another large-scale sediment removal project in the future.

The reservoir will be maintained with the approximate reservoir management cut and elevation levels shown as the green shaded area in Figure 4.6-1 for Option 1 and Figure 4.6-2 for Option 2. This will include the eastern branch and a portion of the upstream and downstream ends of the western branch every year for total reservoir management acreage of approximately 50.78 acres for Option 1 and 52.57 acres for Option 2. The access roads will be maintained to provide proper road width for access.

Vegetation Maintenance

Vegetation within the reservoir management area of the reservoir will be mowed or removed and grubbed annually. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall. All vegetation and sediment outside the reservoir management footprint will be allowed to re-establish and/or remain in place. This will include the majority of the western branch and the undisturbed area between the two branches.

FAST Operations

During FAST operations, reservoir inflows from rain events will naturally pass sediment through the reservoir and downstream of the dam. These FAST operations will occur during the winter storm season and will not require mechanical agitation or assistance. FAST operations will reduce sediment accumulation in the reservoir and help maintain flood control capacity. The amount of sediment that will be transported through FAST operations is limited by the smaller sediment grain size that can be moved by the storm runoff received into the reservoir and the subsequent quantities of storm runoff received.

It is anticipated that the majority of these FAST operations will be similar to historic FAST operations and that similar volumes of sediment will pass through the reservoir and into the Arroyo Seco.

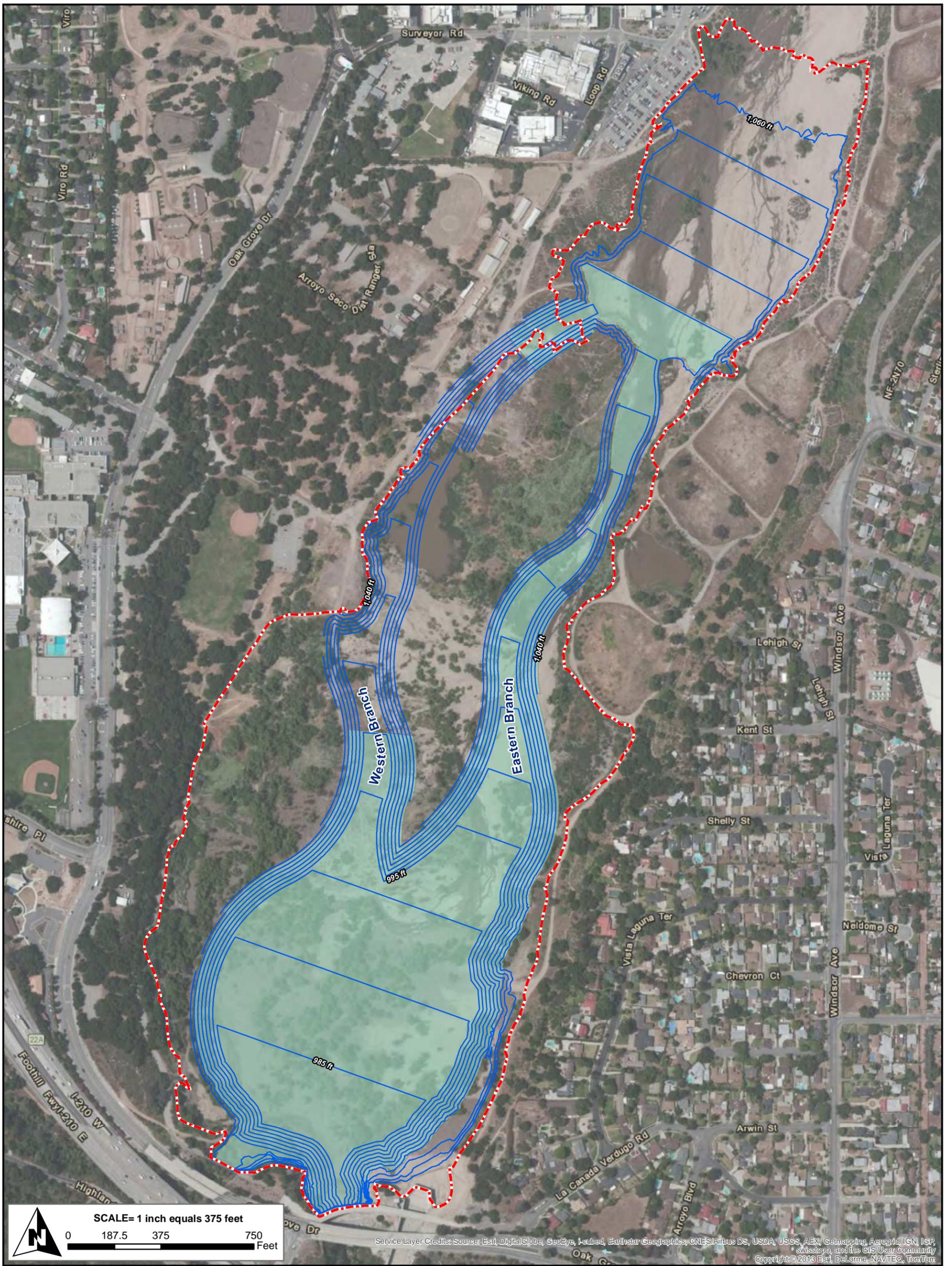
Sediment Excavation/Trucking Offsite

Minor grading at the upstream end of the branches will be performed annually to direct flows into and through the branches to keep sediment moving towards and through the dam. As with sediment removal, a slightly steeper gradient than that used for the Proposed Project will be used on the branches to facilitate this movement. This grading will serve an additional benefit by allowing the direction of recession flows to go towards the stream of the west branch.

Depending on the efficiency of the FAST operations, some mechanical excavation and trucking offsite may be required to remove accumulated sediment. Sediment excavation/trucking offsite during reservoir management will use the same methods and trucking routes as the sediment removal activities. The accumulated sediment will be excavated with construction equipment, including but not limited to approximately two front loaders with 4-yard buckets, one bulldozer, one excavator, one grader, one water truck, and two tender trucks (for fuel and maintenance). Vegetation and organic debris will be separated from the sediment. The need for future sediment removal will depend on future storm activity and associated sediment accumulation.

As with the Proposed Project, it is estimated, based on past storm events, that sediment excavation/trucking offsite will be required to remove typically 13,000 cy of sediment annually. Based on an estimated removal of 4,800 cy per day, it is expected this will occur over an estimated two-week period, working Monday through Friday. This sediment excavation activity will take place during the late summer/early fall following the vegetation maintenance.

Moderately large sediment deposits have the potential to occur during a storm season with very intense rainfall or following a significant wildfire within the watershed. Such events are expected to occur very infrequently. It is anticipated that even with this type of event the newly deposited sediment could be removed in one season. A moderately large sediment removal event, anticipated to involve approximately 170,000 cy, could take place over an estimated 12-week period during the late summer and early fall following the vegetation maintenance.

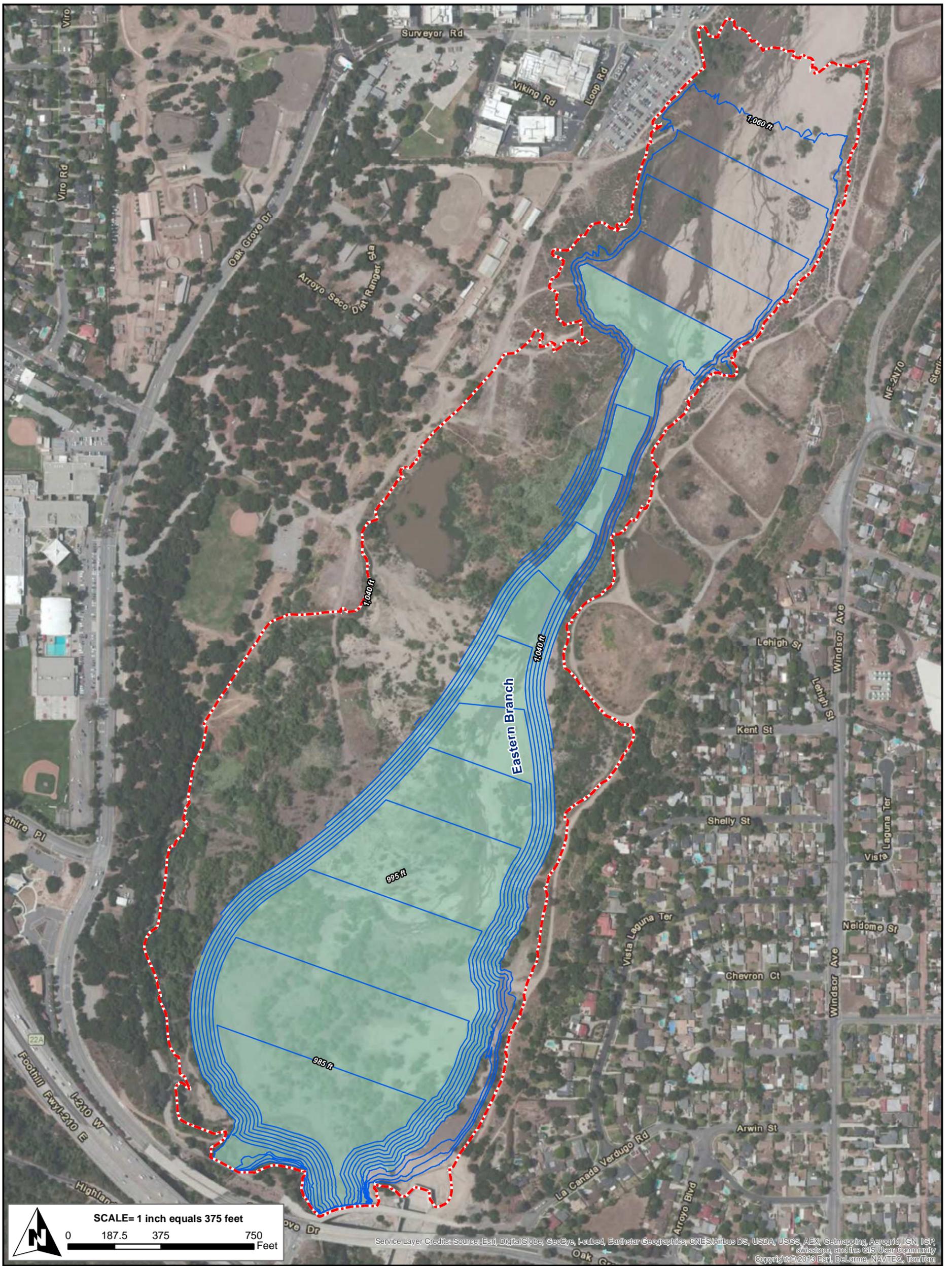


- Proposed Project Boundary
- Reservoir Management Area
- Sediment Removal Excavation Contours

Figure 4.6-1
Sediment Removal & Reservoir
Management Areas Map
 Alternative 3 - Configuration D, Option 1

Version Date: 8/20/2014





- Proposed Project Boundary
- Sediment Removal Excavation Contours
- Reservoir Management Area

Figure 4.6-2
Sediment Removal & Reservoir
Management Areas Map
 Alternative 3 - Configuration D, Option 2

Version Date: 8/20/2014



4.6.2 Alternative Duration

A large-scale sediment removal project will be required if a significant amount of sediment accumulates in the reservoir or outside the maintenance footprint despite the reservoir management activities. This is not anticipated for a period of over two decades unless major fires and subsequent intense storms occur within the watershed. Sediment outside the maintenance footprint will be monitored to determine if the sediment buildup is exceeding projected volumes. If future reservoir conditions threaten dam operations, LACFCD will initiate the planning process for a new large-scale sediment removal project. Part of this planning will involve utilizing the CEQA process to evaluate and determine the appropriate level of environmental document required for the future project.

4.6.3 Impacts Analysis and Comparison to Proposed Project

AESTHETICS

AESTHETICS-1 *Have a substantially adverse effect on a scenic vista.*

Sediment Removal

Summaries of the potential visual changes to representative viewpoints, shown on Figure 3.4-4: Devil's Gate Proposed Viewpoints, are described below and also in Table 4.6-1: Visual Analysis – Sediment Removal Visual Change. The potential impacts to representative viewpoints are summarized in Table 4.6-2: Sediment Removal Visual Impact Significance.

Sediment removal activities associated with Alternative 3, Configuration D will change the visual characteristics of the reservoir through the removal of sediment and associated vegetation in the reservoir. These changes will be similar to the Proposed Project at the south end of the reservoir; however, these changes will be reduced in magnitude in comparison to the Proposed Project, as Alternative 3, Configuration D, Option 1 will leave a greater area along the west and east sides of the reservoir and the area between the two branches undisturbed. Alternative 3, Configuration D, Option 2 changes will be reduced in magnitude in comparison to the Proposed Project, as Alternative 3, Configuration D, Option 2 will leave a greater area along the east side and a large, contiguous area on the west side of the reservoir undisturbed.

As with the Proposed Project, sediment removal activities associated with Alternative 3, Configuration D, Option 1 and Alternative 3 Configuration D, Option 2 will not result in obstruction or blockage of views due to the large difference in elevation between viewpoints and the Proposed Project site.

Construction equipment will be visible in the basin. Views of construction equipment will be expected elements in the viewshed due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

Table 4.6-1: Visual Analysis – Sediment Removal Visual Change

Viewpoint No. (Location, pole, etc.)	Viewpoint		Visual Change				
	Location	Direction Facing	Type of Visual Change	Visual Contrast	Project Dominance	View Blockage	Overall Visual Change
View 1	Bench near the west side of the dam (near La Cañada Verdugo Road)	East	Area of vegetation and soil removal reduced in comparison to the Proposed Project. Under Option 1, large swaths of existing vegetation and topography will remain in the center and on the east and west sides of the Proposed Project site. Under Option 2, large swaths of existing vegetation and topography will remain on the east and west sides of the Proposed Project site. Removal activities will occur seasonally over a five-year timeframe.	Moderate-High	Moderate	Low	Moderate
View 2	Top of dam	North	Area of vegetation and soil removal reduced in comparison to the Proposed Project. Under Option 1, large swaths of existing vegetation and topography will remain in the center and on the east and west sides of the Proposed Project site. Under Option 2, large swaths of existing vegetation and topography will remain on the east and west sides of the Proposed Project site. Removal activities will occur seasonally over a five-year timeframe.	Moderate-High	High	Low	Moderate-High
View 3	East of dam near trail	West	Area of vegetation and soil removal reduced in comparison to the Proposed Project. Under Option 1, large swaths of existing vegetation and topography will remain in the center and on the east and west sides of the Proposed Project site. Under Option 2, large swaths of existing vegetation and topography will remain on the east and west sides of the Proposed Project site. Removal activities will occur seasonally over a five-year timeframe.	Moderate-High	Moderate	Low	Moderate
View 4	Normandy Court	North	Area of vegetation and soil removal reduced in comparison to the Proposed Project. Under Option 1, large swaths of existing vegetation and topography will remain in the center and on the east and west sides of the Proposed Project site. Under Option 2, large swaths of existing vegetation and topography will remain on the east and west sides of the Proposed Project site. Removal activities will occur seasonally over a five-year timeframe.	Moderate-High	Moderate	Low	Moderate
View 5	Windsor Parking Lot	Southwest	Area of vegetation and soil removal reduced in comparison to the Proposed Project. Under Option 1, large swaths of existing vegetation and topography will remain in the center and on the east and west sides of the Proposed Project site. Under Option 2, large swaths of existing vegetation and topography will remain on the east and west sides of the Proposed Project site. Removal activities will occur seasonally over a five-year timeframe.	Moderate	Moderate	Low	Moderate

With sediment removal under Alternative 3, Configuration D, Option 1, the topography of the reservoir will be lower, especially at the south end of the reservoir and within the two branches. Vegetation within the excavation limits will be removed. With sediment removal under Alternative 3, Configuration D, Option 2, the topography of the reservoir will be lower, especially at the south end of the reservoir and within the branch located in the eastern portion of the reservoir. These elements will result in a high degree of contrast from existing visual characteristics and will result in a potentially significant impact to scenic vistas. These contrasting elements will be highly visible for Viewpoints 1 through 3. For Viewpoints 1 and 3, however, the co-dominant features of Devil's Gate Dam, the reservoir maintenance roads, electrical lines, the debris boom line, and other less dominant features of the San Gabriel Mountains, Oak Grove Drive, JPL facilities, and residential areas will remain unchanged. In addition, for Alternative 3, Configuration D, Option 1, the existing vegetation along the west and east sides of the reservoir and the area between the two branches will not be removed and will share dominance with the dam and the excavation area. For Alternative 3, Configuration D, Option 2, the existing vegetation along the east side of the reservoir and a large, contiguous area in the western portion of the reservoir adjacent to the east branch will not be removed and will share dominance with the dam and the excavation area.

Sediment removal activities will also be visible from Viewpoint 4 and Viewpoint 5 but will be less dominant due to distance and other more dominant visual elements. The dominant features for Viewpoint 4 (I-210, Devil's Gate Dam, San Gabriel Mountains, the west and east sides of the reservoir, the area between the two branches) and Viewpoint 5 (spreading grounds, JPL facilities), will remain unchanged.

As with the Proposed Project, excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, as weather permits. During the wetter months, changes to the visual characteristics associated with sediment removal will be slightly less apparent when water is stored in the basin. Some regrowth of riparian vegetation will likely occur during this time. Both of these factors will reduce the change in the visual characteristics associated with sediment removal. In addition, as discussed above, sediment removal activities will not introduce view-obstructing features.

Table 4.6-2: Sediment Removal Visual Impact Significance

Viewpoint	Overall Visual Sensitivity	Overall Visual Change	Impact Significance
View 1	Moderate-High	Moderate	Potentially Significant
View 2	Moderate-High	Moderate-High	Potentially Significant
View 3	Moderate-High	Moderate	Potentially Significant
View 4	Moderate-High	Moderate	Potentially Significant
View 5	Moderate-High	Moderate	Potentially Significant

Nevertheless, due to the multi-year duration of the sediment removal phase under Alternative 3, Configuration D, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to scenic vistas. While the sediment removal associated with Alternative 3, Configuration D will result in a potentially significant impact to scenic vistas, the degree of contrast will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

Reservoir Management

Summaries of the potential visual changes to representative viewpoints are described below and also in Table 4.6-3: Visual Analysis – Reservoir Management Visual Change. The potential impacts to representative viewpoints are summarized in Table 4.6-4: Reservoir Management Visual Impact Significance.

Visual simulations were created for Viewpoints 1 through 4 to portray the expected conditions under reservoir management for this Alternative (see Figure 4.6-3, Figure 4.6-4, Figure 4.6-5, Figure 4.6-6, and Figure 4.6-7). Visual simulations were not created for Viewpoint 5 due to dominance of other visual elements (spreading grounds, JPL facilities). As with the Proposed Project, reservoir management will not result in obstruction or blockage of views. Construction equipment will also be visible in the basin but only for short periods of time.

After completion of the proposed sediment removal activities associated with Alternative 3, Configuration D, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. The area available for regrowth will be greater for this alternative than for either reservoir management option under the Proposed Project. Under Alternative 3, Configuration D, Option 1, approximately 25.21 acres of previously disturbed area will have natural vegetation regrowth; and 50.78 acres of vegetation will be maintained annually. In addition, 44.43 acres that were not disturbed during sediment removal will remain undisturbed. Under Alternative 3, Configuration D, Option 2, approximately 18.43 acres of previously disturbed area will have natural vegetation regrowth; and 52.57 acres of vegetation will be maintained annually. In addition, 49.42 acres that were not disturbed during sediment removal will remain undisturbed. In contrast, under the Proposed Project's reservoir management Option 1, approximately 120.42 acres of vegetation will be maintained annually. Under the Proposed Project's reservoir management Option 2, 33.97 acres of previously disturbed area will have natural vegetation regrowth and 91.28 acres of vegetation will be maintained annually.

Table 4.6-3: Visual Analysis – Reservoir Management Visual Change

Viewpoint No. (Location, pole, etc.)	Viewpoint			Visual Change				
	Location	Direction Facing	Figure No.	Type of Visual Change	Visual Contrast	Project Dominance	View Blockage	Overall Visual Change
View 1	Bench near the west side of the dam (near La Cañada Verdugo Road)	East	4.6-2	Views of natural regrowth of native vegetation in the majority of the reservoir. Trees on border of maintenance area expected to be dominant features.	Low	Low	Low	Low
View 2	Top of dam	North	4.6-3	Views of natural regrowth of native vegetation in the majority of the reservoir. Trees on border of maintenance area expected to be dominant features.	Low	Low – Moderate	Low	Low
View 3	East of dam near trail	West	4.6-4	Views of natural regrowth of native vegetation in the majority of the reservoir. Trees on border of maintenance area expected to be dominant features.	Low	Low	Low	Low

Table 4.6-3: Visual Analysis – Reservoir Management Visual Change

Viewpoint No. (Location, pole, etc.)	Viewpoint			Visual Change				
	Location	Direction Facing	Figure No.	Type of Visual Change	Visual Contrast	Project Dominance	View Blockage	Overall Visual Change
View 4	Normandy Court	North	4.6-5	Views of natural regrowth of native vegetation in the majority of the reservoir. Trees on border of maintenance area expected to be dominant features.	Low	Low	Low	Low
View 5	Windsor Parking Lot	Southwest	NA	Views of natural regrowth of native vegetation in the majority of the reservoir. Trees on border of maintenance area expected to be dominant features.	Low	Low	Low	Low



Legend

-  Proposed Project Boundary
-  Proposed Project Viewpoint

Figure 4.6-3
 Devil's Gate Reservoir Sediment Removal
 and Management Project
 Alternative 3, Configuration D, Option 1 Viewpoint 1 Reservoir Management Conditions

Version Date: 8/20/2014



Legend

-  Proposed Project Boundary
-  Proposed Project Viewpoint

Figure 4.6-4
 Devil's Gate Reservoir Sediment Removal
 and Management Project
 Alternative 3, Configuration D, Option 1 Viewpoint 2 Reservoir Management Conditions

Version Date: 8/20/2014



Legend

-  Proposed Project Boundary
-  Proposed Project Viewpoint

Figure 4.6-5
 Devil's Gate Reservoir Sediment Removal
 and Management Project
 Alternative 3, Configuration D, Option 1 Viewpoint 3 Reservoir Management Conditions

Version Date: 8/20/2014



Legend

-  Proposed Project Boundary
-  Proposed Project Viewpoint

Figure 4.6-6
 Devil's Gate Reservoir Sediment Removal
 and Management Project
 Alternative 3, Configuration D, Option 1 Viewpoint 4 Reservoir Management Conditions

Version Date: 8/20/2014



Legend

-  Proposed Project Boundary
-  Proposed Project Viewpoint

Figure 4.6-7
 Devil's Gate Reservoir Sediment Removal
 and Management Project
 Alternative 3, Configuration D, Option 2 Viewpoint 4 Reservoir Management Conditions

Version Date: 8/20/2014

Table 4.6-4: Reservoir Management Visual Impact Significance

Viewpoint	Overall Visual Sensitivity	Overall Visual Change	Impact Significance
View 1	Low	Low	Less than Significant
View 2	Low	Low	Less than Significant
View 3	Low	Low	Less than Significant
View 4	Low	Low	Less than Significant
View 5	Low	Low	Less than Significant

As described above, the majority of the reservoir will be allowed to naturally grow and/or remain in place; and the trees on the border of the reservoir management area are expected to become dominant features within the reservoir (see Figures 4.6-3 through 4.6-7). Therefore, reservoir management under Alternative 3, Configuration D will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas. In addition, any contrast associated with this Alternative will be reduced in comparison to either reservoir management option under the Proposed Project due to the reduction in reservoir management area and associated reservoir management activities.

Mitigation Measures

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation measures, impacts to scenic vistas from sediment removal activities will remain potentially significant.

Reservoir management impacts to scenic vistas will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts on scenic vistas 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

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

AESTHETICS-2 *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 3, Configuration D will not involve damage to rock outcroppings or historic buildings but will involve removal of vegetation, including native and non-native trees from the site, though to a lesser degree than the Proposed Project. The Proposed Project site is not visible from the only designated state scenic highway in the vicinity of the Proposed Project site, SR2. Therefore, implementation of this alternative will not damage scenic resources within the viewshed of a designated state scenic highway.

I-210, located to the south of the Proposed Project site, is identified as "Eligible" in the State Scenic Highway Program. Alternative 3, Configuration D will impact the existing visual character of a portion of the viewshed through the removal of vegetation, including native and non-native trees from the site. This impact to visual character of a portion of the viewshed will be reduced in comparison to the Proposed Project due to the reduction in sediment removal and reservoir management areas and associated activities. In addition, views of the Proposed Project site from I-210 are very brief in nature (visibility for approximately 0.3 mile) and are dominated by views of the JPL facilities and San Gabriel Mountains. Implementation of Alternative 3, Configuration D will not obstruct views of these features. Therefore, impacts to scenic resources within this eligible but not designated state scenic highway will be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts After Mitigation Measure

The Proposed Project site is not visible from any designated state scenic highway and is only briefly visible from an eligible state scenic highway; therefore, impacts related to state scenic highways from sediment removal and reservoir management are less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts related to state scenic highways from sediment removal and reservoir management, 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

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

AESTHETICS-3 *Substantially degrade the existing visual character or quality of the site and its surroundings.*

Sediment Removal

As described above under AESTHETICS-1, the proposed sediment removal activities associated with Alternative 3, Configuration D will change the visual characteristics of the existing Proposed Project site through the removal of sediment and associated vegetation in the reservoir.

Disturbed landscape areas, both man-made and natural, are currently found throughout the basin. The amount and distribution of these areas change on a regular basis and are expected visual elements in the Proposed Project site landscape. Construction equipment will also be visible in the basin. Views of construction equipment will be expected elements in the viewshed, due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

Sediment and debris management are considered existing operational components of Devil's Gate Reservoir and are not considered potentially significant impacts to the visual characteristics of the site (City of Pasadena 2002). During the sediment removal phase of Alternative 3, Configuration D the disturbed areas will, in large, replace the vegetated areas, resulting in a high degree of contrast between existing and sediment removal conditions. While the open character of the site will remain, the overall visual quality of the Proposed Project site will be lower due to the large-scale alteration and decrease of desirable elements.

Excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, as weather permits. During the wetter months, temporary changes to the visual characteristics of the Proposed Project site will be slightly less apparent with water storage in the basin. Some regrowth of riparian vegetation is also likely to occur during this time. Both of these factors will reduce the temporary change in the visual characteristics associated with sediment removal. Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to the visual character of the Proposed Project site.

Although the sediment removal associated with this alternative will result in a potentially significant impact to the visual character of the Proposed Project site, the degree of contrast will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. In addition for Alternative 3, Configuration D, Option1, approximately 44.43 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include swaths along the west and east sides of the site and in the center of the site between the two branches. For Alternative 3, Configuration D, Option2, approximately 49.42 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include a large swath along the east side of the reservoir and a large, contiguous area in the western portion of the reservoir adjacent to the east branch. With areas of undisturbed vegetation left throughout, the site will more closely resemble the mix of disturbed and vegetated areas found under existing conditions than with the Proposed Project.

Reservoir Management

As with the Proposed Project, construction equipment will also be visible in the basin but only for short periods of time. After completion of the proposed sediment removal activities associated with Alternative 3, Configuration D, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. Reservoir management under this alternative will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character. The majority of the reservoir will be allowed to naturally grow and/or remain in place, and the trees on the border of the reservoir management area are expected to become dominant features within the reservoir. As described previously, the area requiring vegetation maintenance will be smaller than for either reservoir management option under the Proposed Project. In addition, any contrast associated with this Alternative will be reduced in comparison to either reservoir management option under the Proposed Project due to the reduction in reservoir management area and associated reservoir management activities.

Mitigation Measures

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation, impacts to visual character from sediment removal activities will remain potentially significant.

Reservoir management impacts to visual character will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to visual character 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

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

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 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.

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.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to air quality plans 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 be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, due to 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 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 to a level of 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

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

Residual Impacts After Mitigation

Sediment removal will not exceed any standard SCAQMD Regional Threshold except for combined NO_x emissions. 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.

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

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to air quality standards 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 be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

AIR QUALITY-3 *Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Sediment Removal/Reservoir Management

Air Quality Plans

As discussed previously, emissions of NO_x from Alternative 3, Configuration D are expected to exceed the SCAQMD regional significance thresholds during sediment removal. This exceedance will not be consistent with air quality management plans and therefore will result in a significant cumulative impact. This impact will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities.

Emissions of VOC, NO_x, PM₁₀, and PM_{2.5} are not expected to exceed the SCAQMD regional significance thresholds during reservoir management. The SCAQMD considers construction-related emissions that do not exceed the project-specific thresholds will not result in a cumulative impact.

Cumulative Health Impacts

As with the Proposed Project, Alternative 3, Configuration D with Mitigation Measures MM AQ-1 and MM AQ-2, 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. 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.

Mitigation Measures

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

Residual Impacts After Mitigation

Sediment removal will not exceed any localized significance threshold except for combined NO_x emissions. 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.

Reservoir management will not exceed any localized significance threshold; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to cumulative health 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 be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

AIR QUALITY-4 *Expose sensitive receptors to substantial pollutant concentrations.*

Sediment Removal/Reservoir Management

Localized Significance Thresholds

As with the Proposed Project, the onsite emissions for Alternative 3, Configuration D for sediment removal and reservoir management activities will not exceed LST thresholds.

Carbon Monoxide Hotspot

As with the Proposed Project, the CO Hotspot analysis for Alternative 3, Configuration D shows no exceedance of the State or federal CO standard; and no significant impact is expected during sediment removal or management.

Carcinogenic Or Toxic Contaminants

As with the Proposed Project, all routes modeled for Alternative 3, Configuration D resulted in less than significant non-cancer risk from diesel emissions created by the Alternative.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to sensitive receptors to substantial pollutant concentrations 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 be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 air quality impacts associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

AIR QUALITY-5 *Create objectionable odors affecting a substantial number of people.*

Sediment Removal/Reservoir Management

The CEQA Guidelines indicate that a potentially significant impact would occur if the Proposed Project would create objectionable odors affecting a substantial number of people.

As with the Proposed Project, diesel exhaust will be emitted from equipment during the sediment removal process for Alternative 3, Configuration D, which is an objectionable odor to some; however, concentrations will disperse rapidly from the Project site (OB-1 2013); therefore impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 3, Configuration D is not expected to produce objectionable odors beyond the Proposed Project site under sediment removal or either reservoir management option; therefore this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts to objectionable odors.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior 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 inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

BIOLOGICAL RESOURCES

BIOLOGY-1 *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.*

Sediment Removal

As shown in Figure 4.6-8: Alternative 3, Configuration D, Option 1 Sediment Removal Vegetation Communities Impacts and Figure 4.6-9: Alternative 3, Configuration D, Option 2 Sediment Removal Vegetation Communities Impacts, and Table 4.6-5: Alternative 3, Configuration D, Sediment Removal Impacts to Vegetation Communities, potential impacts to vegetation communities will be reduced in comparison to the Proposed Project due to the reduction in area disturbed during excavation and associated sediment removal activities.

Sensitive Plants

No listed or otherwise sensitive plant species were observed on the Proposed Project site. Therefore, as with the Proposed Project, Alternative 3, Configuration D is not expected to have a substantial adverse effect on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Table 4.6-5: Alternative 3, Configuration D, Sediment Removal Impacts to Vegetation Communities

Vegetation Communities	Estimated Acres of Vegetation Removed During Sediment Removal		
	Proposed Project	Alternative 3 Configuration D, Option 1	Alternative 3 Configuration D, Option 2
Riversidean Alluvial Fan Sage Scrub	1.1	0.4	0.4
California Sagebrush – California Buckwheat Scrub	3.1	2.1	0.9
Scoured	26.5	21.0	22.6
Escaped Cultivars	0.4	0.2	0.2
Riparian Woodland	51.4	28.9	29.8
Mustard and Annual Brome Semi-Natural Herbaceous Stand	22.8	14.8	12.1
Mule Fat Thickets	11.1	6.1	3.7
Disturbed	1.9	2.0	1.1

Sensitive Wildlife

The Proposed Project site contains habitat and/or potential habitat for five special status species: least Bell’s vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake. Least Bell’s vireo, yellow warbler, coast range newt, and two-striped garter snake have all been observed on the Proposed Project site. The southwestern pond turtle has not been observed on the Proposed Project site. If it did occur, habitat for this species would be largely limited to ponded areas.

Of the approximately 120.42 acres that will be disturbed under the Proposed Project, approximately 44.43 acres, or 36 percent, will be left undisturbed under Alternative 3, Configuration D, Option 1. These undisturbed areas will include swaths along the west and east sides of the site and in the center of the site between the two branches. These undisturbed areas include potential habitat for the five special status species.

As shown in Figure 4.6-8 and Table 4.6-3, potential impacts to sensitive wildlife will be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities. Disturbance of habitat for the least Bell’s vireo within Riparian Woodland and Mule Fat Thickets communities will be reduced by approximately 22.5 acres (44 percent) and 5.0 acres (54 percent), respectively, as compared to the Proposed Project.

Disturbance of habitat for the yellow warbler within the Riparian Woodland community will be reduced by approximately 22.54 acres (44 percent), as compared to the Proposed Project.

Of the approximately 120.42 acres that will be disturbed under the Proposed Project, approximately 50.42 acres, or 42 percent, will be left undisturbed under Alternative 3, Configuration D, Option 2. These undisturbed areas will include a swath along the east side of the site and a large, contiguous area in the

western portion of the reservoir west of the proposed excavation. These undisturbed areas include potential habitat for the six special status species.

As shown in Figure 4.6-8 and Table 4.6-3, potential impacts to sensitive wildlife will be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities. Disturbance of habitat for the least Bell's vireo within Riparian Woodland and Mule Fat Thickets communities will be reduced by approximately 21.6 acres (42 percent) and 7.6 acres (82 percent), respectively, as compared to the Proposed Project.

Disturbance of habitat for the yellow warbler within the Riparian Woodland community will be reduced by approximately 21.6 acres (42 percent), as compared to the Proposed Project.

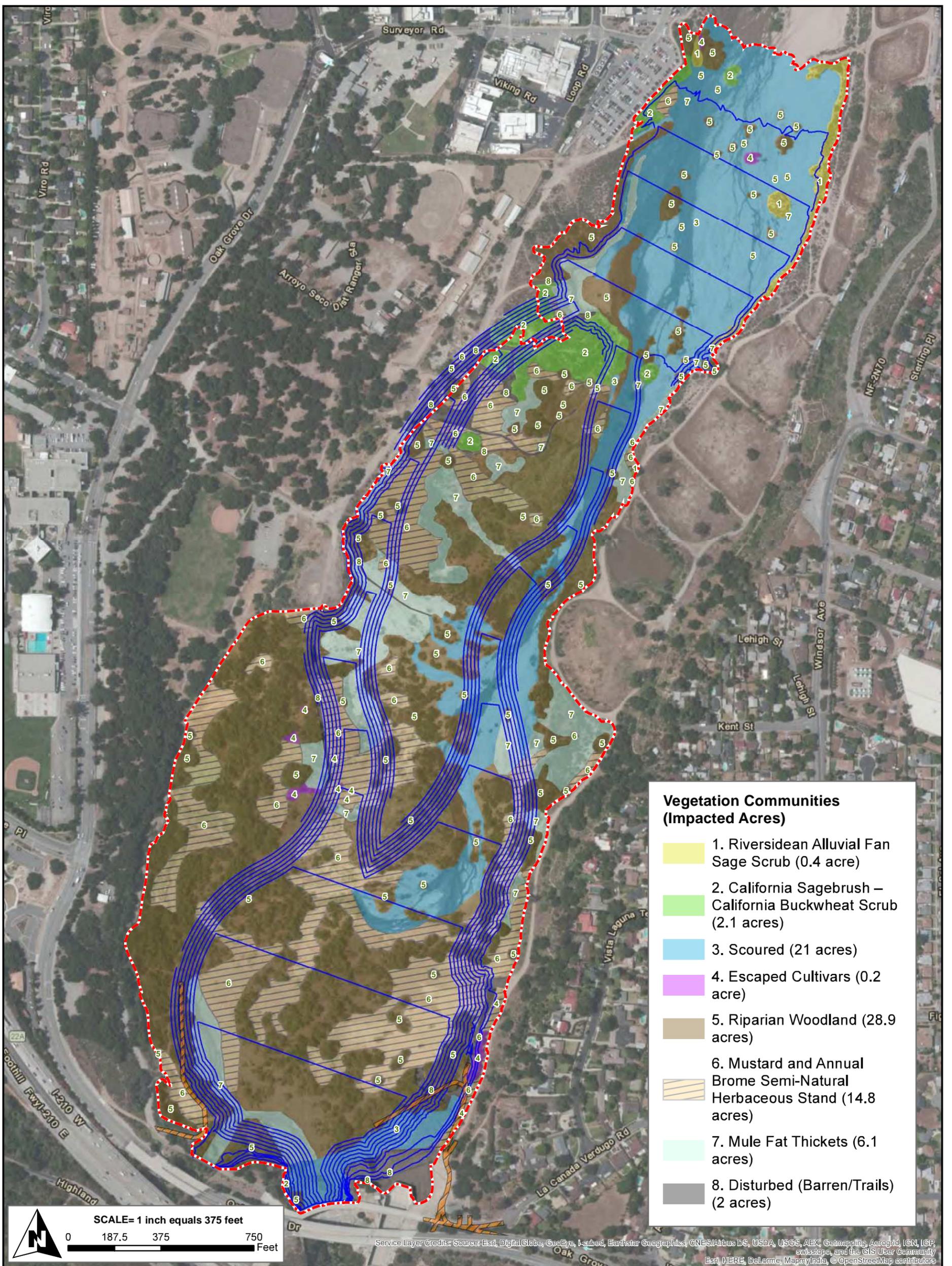
Habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake occurs within streams and seasonal ponds found on the Proposed Project site. The amount of this habitat that will be available will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Under Alternative 3, Configuration D, disturbance of habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake is expected to be reduced in comparison to the Proposed Project due to the reduction in habitat disturbed during sediment removal activities.

Direct harm or take of these species during sediment removal activities would result in a potentially significant impact. The chance of this occurring during sediment removal activities under this alternative is expected to be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. To ensure no harm or take of these special status species, Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3, listed below, have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During sediment removal, tree and vegetation removal has the potential to significantly affect nesting birds and roosting bats if active nests or roosting bats are present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. This impact will be reduced under Alternative 3, Configuration D, as less acreage of habitats will be removed in comparison to the Proposed Project (see Table 4.6-3). With implementation of Mitigation Measures MM BIO-4 and MM BIO-5, listed below, impacts to nesting birds and roosting bats will be less than significant.

Reservoir Management

Figure 4.6-8: Alternative 3, Configuration D, Option 1 Sediment Removal Vegetation Communities Impacts and Figure 4.6-9: Alternative 3, Configuration D, Option 2 Sediment Removal Vegetation Communities Impacts show expected conditions of the vegetation communities under reservoir management for Alternative 3, Configuration D, Option 1 and Alternative 3, Configuration D, Option 2, respectively, in comparison to the Proposed Project. As shown below, Alternative 3, Configuration D will result in a greater diversity of vegetation communities, including a greater amount of Riparian Woodland and Mule Fat Thickets. Under Alternative 3, Configuration D, a greater area of the Proposed Project site will be left undisturbed during reservoir management, approximately 69.64 acres under Option 1 and 67.85 acres under Option 2. In contrast, under the Proposed Project's reservoir management Option 1, the whole Proposed Project site, approximately 120.42 acres, will be disturbed annually. Under the Proposed Project's reservoir management Option 2, 33.97 acres will be left undisturbed during reservoir management.

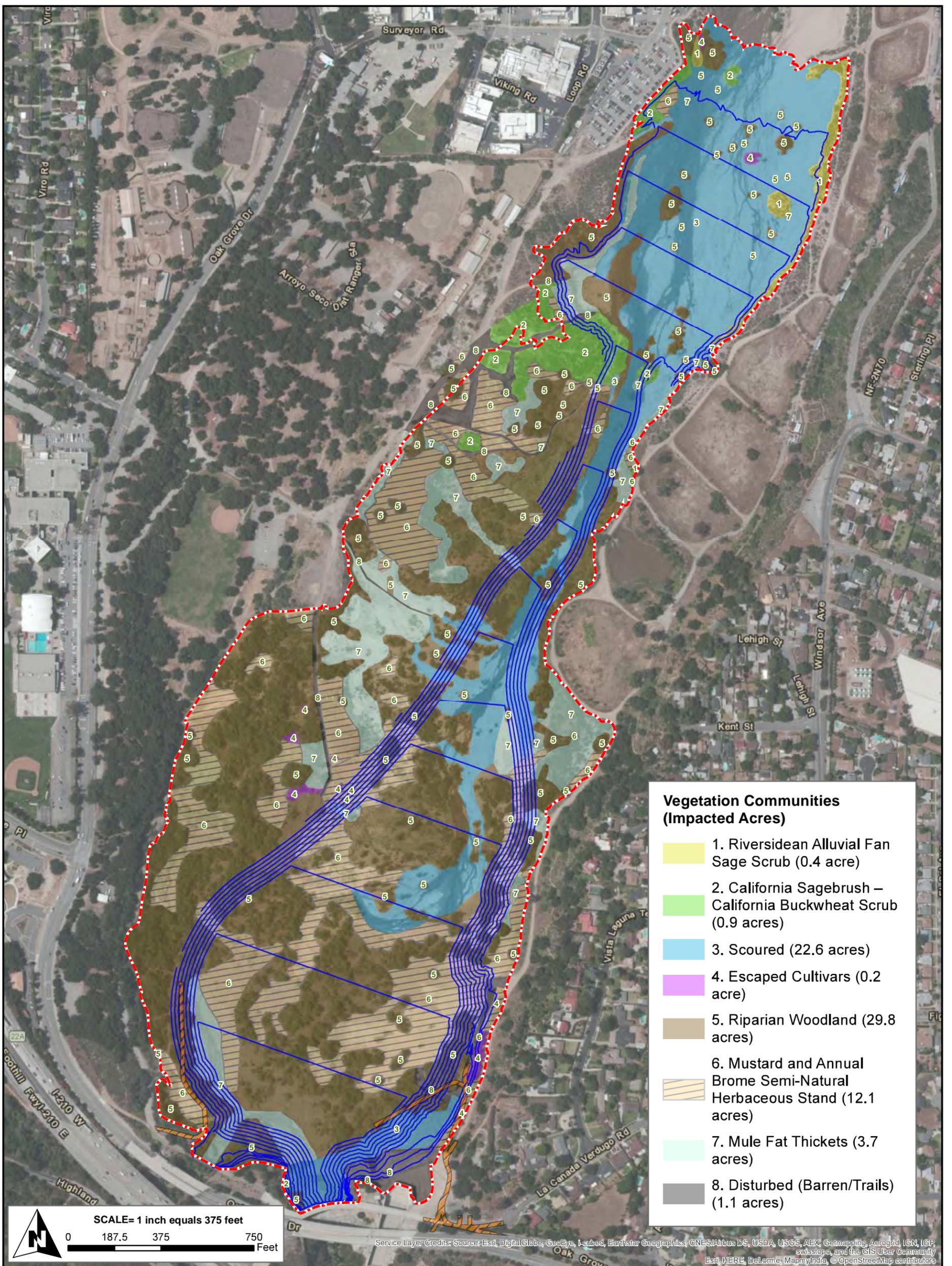


- Proposed Project Boundary
- Access Road
- Sediment Removal Excavation Limit

Figure 4.6-8
Sediment Removal Vegetation
Communities Impacts Map
 Alternative 3 - Configuration D, Option 1

Version Date: 10/16/2014





- Proposed Project Boundary
- Access Road
- Sediment Removal Excavation Contours

Figure 4.6-9
Sediment Removal Vegetation
Communities Impacts Map
 Alternative 3 - Configuration D, Option 2

Version Date: 10/16/2014



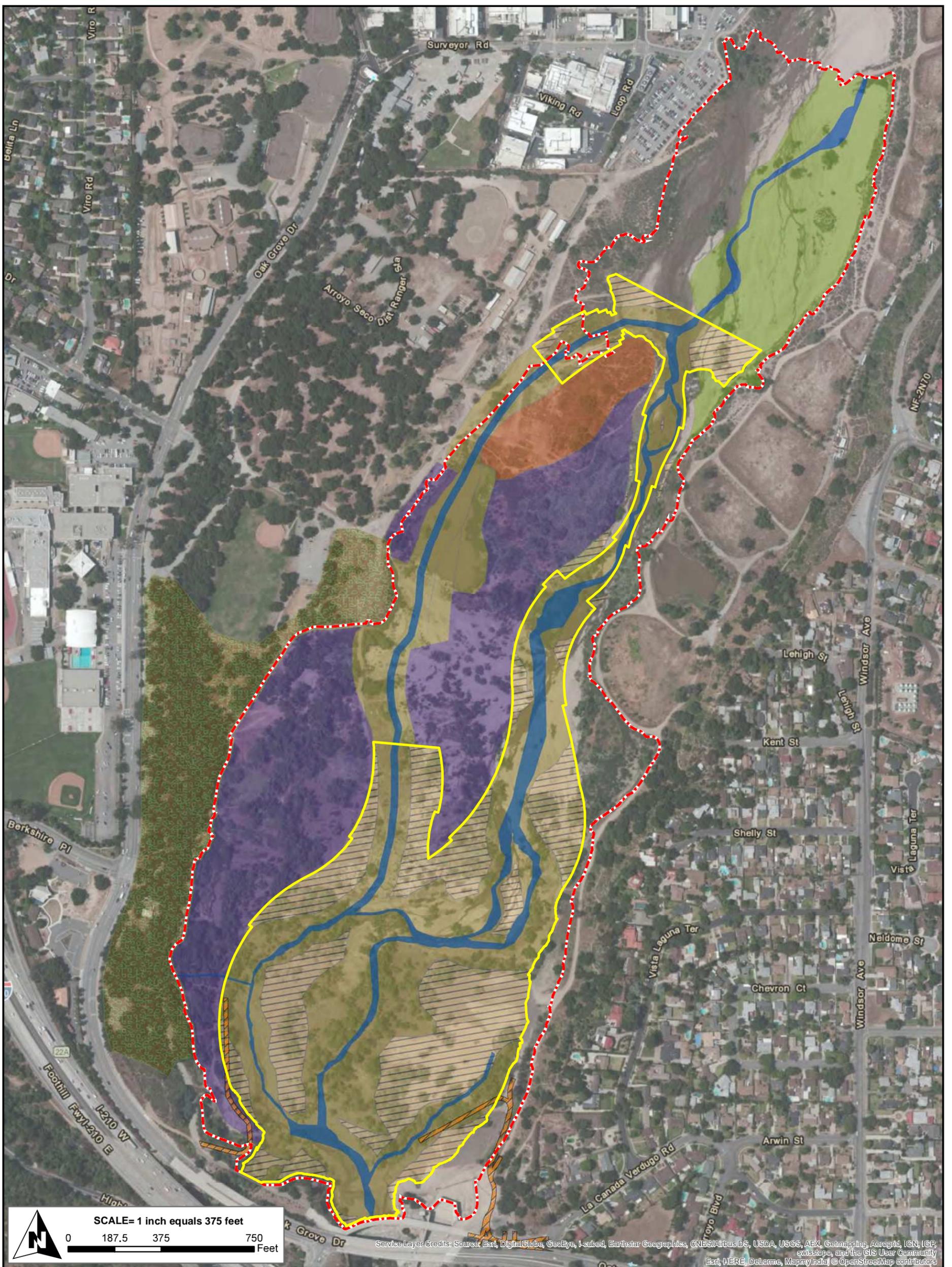
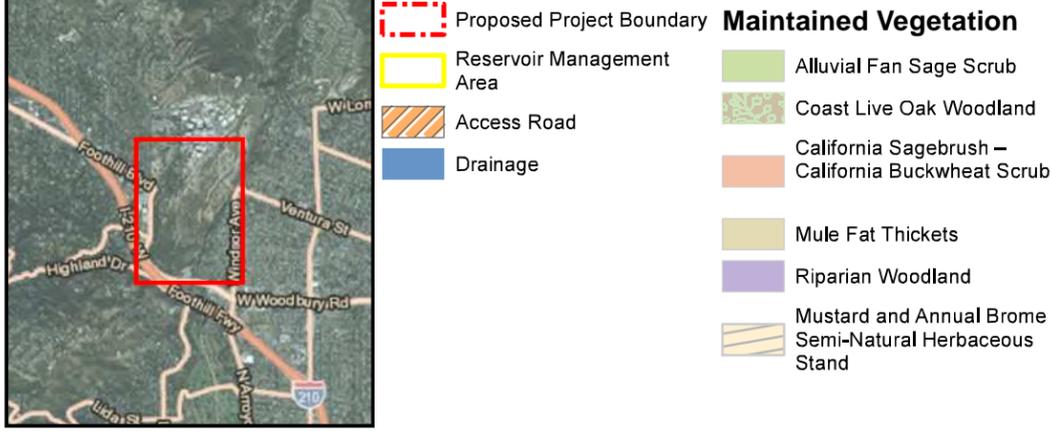
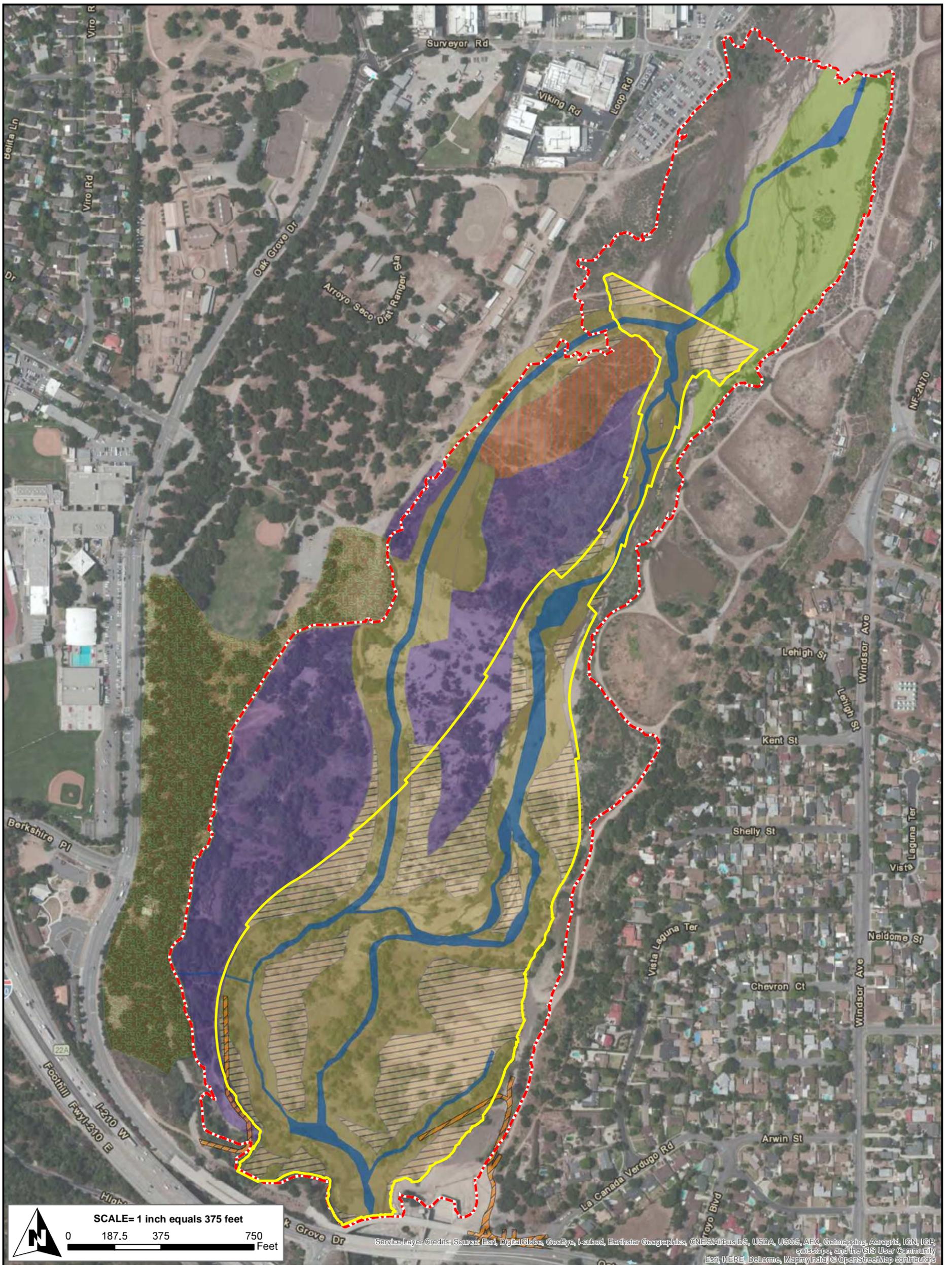


Figure 4.6-10
Expected Vegetation Communities
Under Reservoir Management
Alternative 3 - Configuration D, Option 1

Version Date: 10/17/2014





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- Reservoir Management Area
 - Proposed Project Boundary
 - Access Road
 - Drainage
-
- Maintained Vegetation**
 - Alluvial Fan Sage Scrub
 - Coast Live Oak Woodland
 - California Sagebrush - California Buckwheat Scrub
 - Mule Fat Thickets
 - Riparian Woodland
 - Mustard and Annual Brome
 - Semi-Natural Herbaceous Stand

Figure 4.6-11
Expected Vegetation Communities
Under Reservoir Management
Alternative 3 - Configuration D, Option 2

Version Date: 10/17/2014



The reservoir management area for Alternative 3, Configuration D is expected to be composed of Riparian Herbaceous and Mustard and Annual Brome Semi-Natural Herbaceous Stand communities. Streams and seasonal ponds will be available depending upon where sediment accumulates and the amount of flows, rainfall, and runoff. Special status species have the potential to use the reservoir management area.

Direct harm or take of these species during reservoir management activities will result in a potentially significant impact. The chance of this occurring during reservoir management activities under this alternative is expected to be reduced in comparison to either of the Proposed Project's reservoir management options due to the reduction in the reservoir management area. To ensure no harm or take of these special status species occurs, MM BIO-1, MM BIO-2, and MM BIO-3 have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During reservoir management, tree and vegetation removal has the potential to significantly affect nesting birds and roosting bats if active nests or roosting bats are present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. This impact will be reduced under Alternative 3, Configuration D, as less vegetation will be removed in comparison to the Proposed Project. With implementation of Mitigation Measures MM BIO 4 and MM BIO-5, impacts to nesting birds and roosting bats will be less than significant.

Mitigation Measures

MM BIO – 1: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide protection 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 the 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.

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.

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 CNDDDB field data sheet and submitted to CDFW for inclusion into the CNDDDB.

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. Prior to commencement of sediment removal activities within bird breeding season (March 1 through 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.

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 it 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.

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 of 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 detected in a tree but the qualified biologist determined that roosting bats may still be present, trees shall be removed as follows:
 - Pushing the tree down with heavy machinery instead of felling the tree with a chainsaw
 - First pushing the tree lightly 2 or 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 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. To minimize impacts due to loss of Riversidean 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 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 28.9 acres of Riparian Woodland and 3.7 acres of Mule Fat Thickets. 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 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 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 water features that will be impacted. Compared to the Proposed Project, Alternative 3, Configuration D, Option 1 and Alternative 3, Configuration D, Option 2 will reduce impacts to these water features by approximately 19 percent. To minimize impacts to jurisdictional waters found within these water features, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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. Areas shall be mapped using aerial photographs.

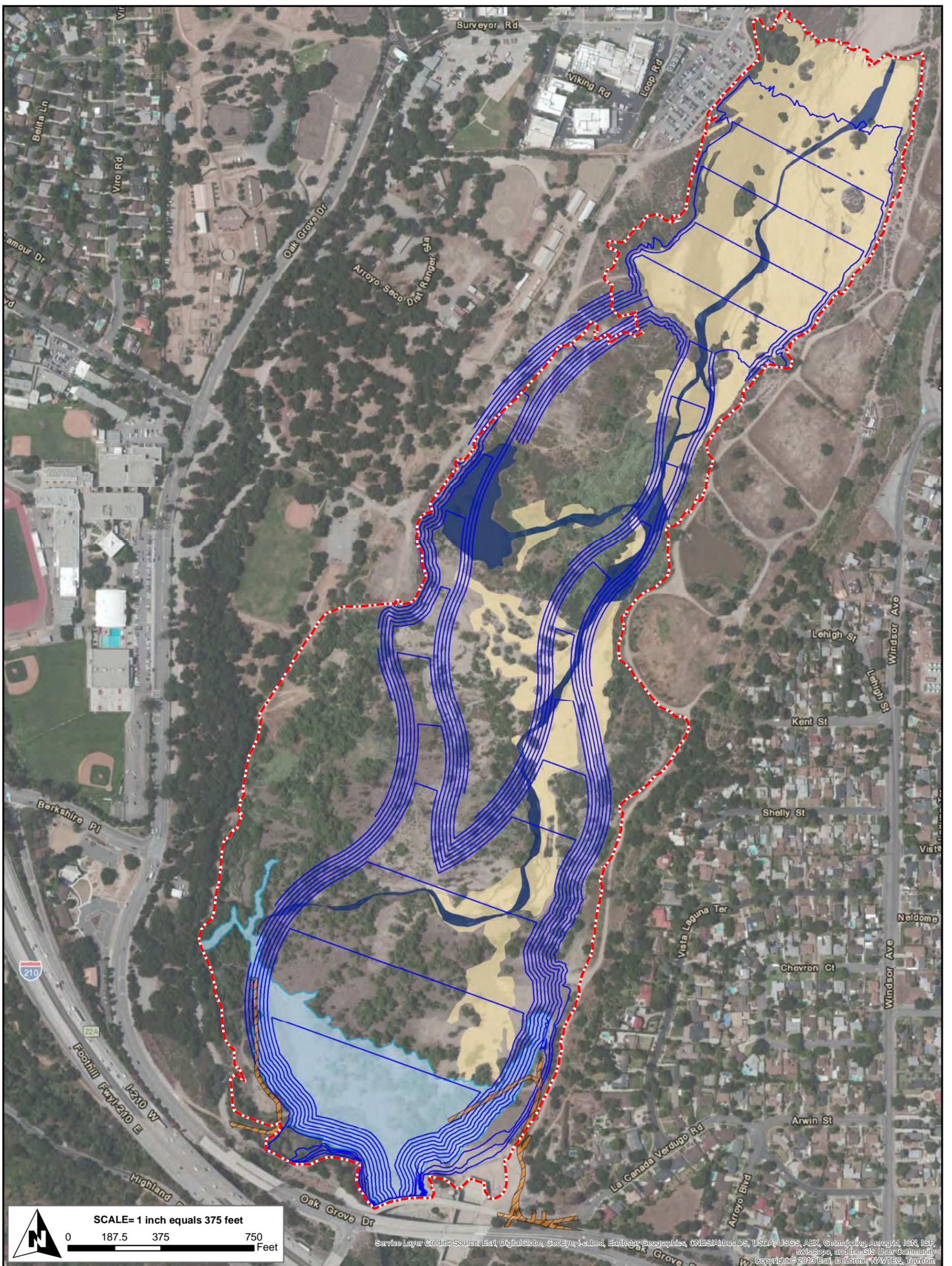
MM BIO – 7: Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint, to identify trees that will be removed or potentially affected by the Proposed Project and trees that can be avoided. LACFCD will replace trees that cannot be avoided. The replacement is expected to be up to 1:1 by 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.

MM BIO – 8: A combination of onsite and offsite restoration, enhancement, and exotic removal shall be implemented by LACFCD at a 1:1 ratio for impacted sensitive habitat and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. This mitigation measure shall be monitored for success for five years following implementation. A report of the monitoring results shall be submitted annually, during the five years following implementation, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement.

Residual Impacts after Mitigation

Under sediment removal and reservoir maintenance, Alternative 3, Configuration D 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.

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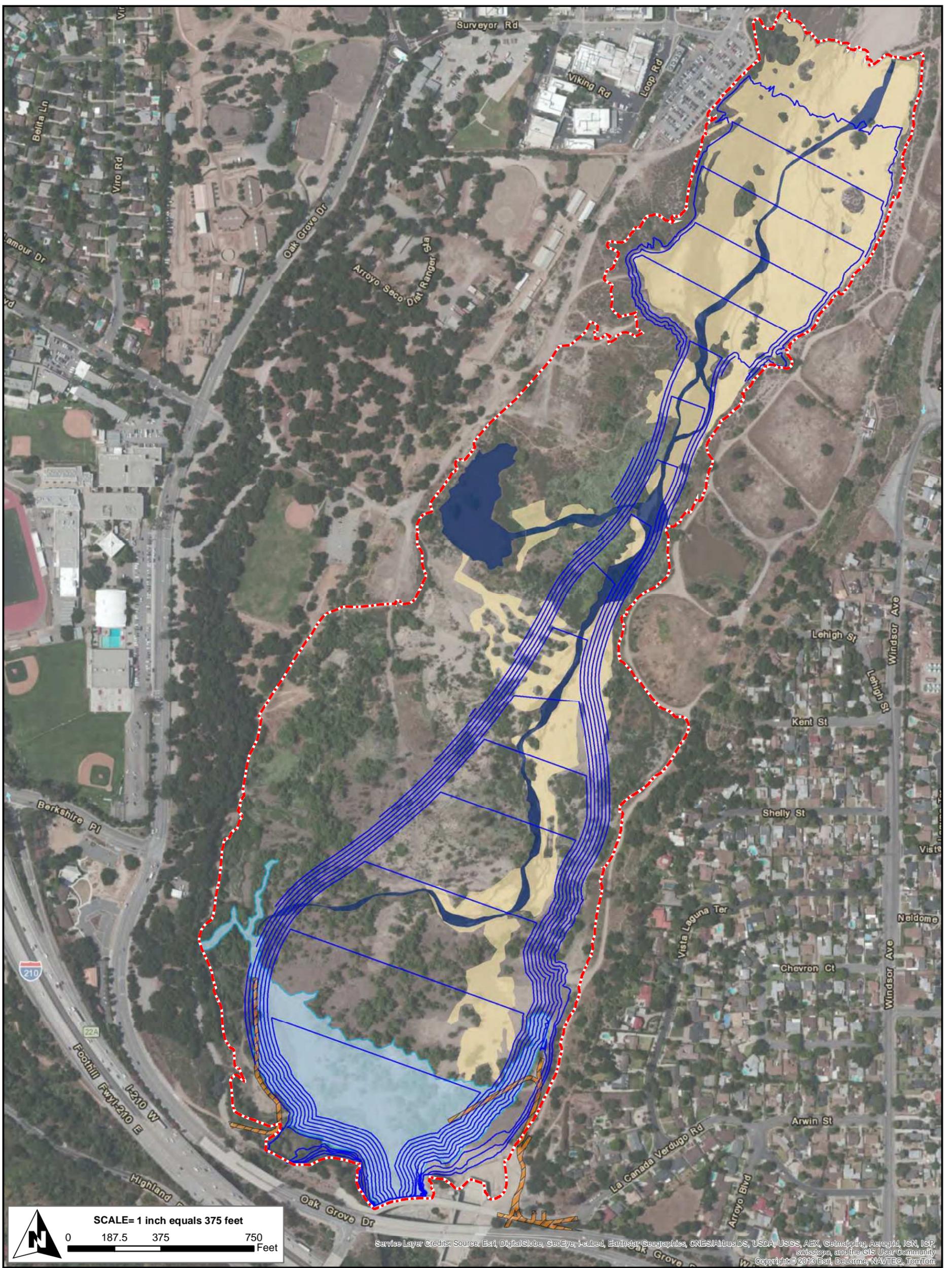


-  Proposed Project Boundary
 -  Access Road
 -  Sediment Removal Excavation Limit
- Waters (Impacted Acres)**
-  Braided Channel (22.2 acres)
 -  Drainage (4.8 acres)
 -  Wetland Area (10.8 acres)

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

Version Date: 8/20/2014





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- 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



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 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, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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 on the Proposed Project site. With implementation of these mitigation measures, impacts to wetlands will be reduced to a level below significance.

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 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. To minimize impacts to less than significant, Mitigation Measures MM BIO-1 through MM BIO-8 has been provided. 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 be reduced to a level below significance.

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. Implementation of Mitigation Measure MM BIO-7 will reduce impacts to city-protected trees to a level below 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.

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.

CULTURAL RESOURCES

CULTURAL-1 *Cause a substantial adverse change in the significance of a historical resource*

Sediment Removal/Reservoir Management

As with the Proposed Project, no alterations or modifications will be made to any historic resource; and therefore, no significant impact to historical resources is anticipated with this alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No historic resources are within the Proposed Project site; therefore Alternative 3, Configuration D will not result in impacts to historic resources.

Comparison to Proposed Project and Other Alternatives

As no historic resources are within the Proposed Project site, Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project with respect to historic resources.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives.

CULTURAL-2 *Cause a substantial adverse change in the significance of an archaeological resource*

Sediment Removal/Reservoir Management

Alternative 3, Configuration D will involve ground-disturbing activities under sediment removal and reservoir management; however, as noted in Section 3.5, most of the soil in the Proposed Project area consists of recently accumulated sediment. In areas filled with recently accumulated sediment, archeological sites are not anticipated to exist, although it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified archeological sites have a potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-1 will reduce potential impacts to less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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 archaeological materials are observed, the excavation in the proximity of the discovery will be diverted until a qualified archaeologist evaluates the discovery.

Residual Impacts After Mitigation

While it is always possible that unidentified archaeological sites exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-1, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to archaeological resources due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, 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 inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

CULTURAL-3 *Cause a substantial adverse change in the significance of a paleontological resource.*

Sediment Removal/Reservoir Management

No paleontological resources were encountered during the course of the survey and are not expected in the accumulated sediment. It is always possible that unidentified paleontological materials exist in native soil below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified paleontological materials have the potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-2 will reduce impacts to less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is always possible that unidentified paleontological materials exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-2, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to paleontological resources due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, 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 inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

CULTURAL-4 *Potentially impact unknown human remains within the proposed project site.*

Sediment Removal/Reservoir Management

As with the Proposed Project, archival research and the archaeological survey in connection with the present project did not indicate the presence of any known human remains in the project area. In the event human remains are discovered, implementation of Mitigation Measure MM CUL-3 will reduce impacts to less than significant.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is possible that human remains could be discovered in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-3, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to accidental discovery of human remains due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, 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 inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

GEOLOGY & SOILS

GEOLOGY-1 *Potentially result in soil erosion or loss of topsoil during sediment removal activities.*

Sediment Removal/Reservoir Management

Alternative 3, Configuration D will involve the excavation of sediment and deposition of the sediment at facilities already prepared and designated to accept such sediment during sediment removal and reservoir management. Sediment stockpiled at Johnson Field as part of the IMP will also be removed. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within Devil's Gate Reservoir. Disturbed sediments are more susceptible to erosion; however, as discussed above in Air Quality, these impacts will be reduced to less than significant through implementation of SCAQMD Rule 403 and BMPs. In addition, excavation, grading, and sediment placement activities will be in accordance with established guidelines, permits, and regulations established for each disposal site. As such, sediment removal and reservoir management impacts to erosion will be less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

No mitigation measures will be required.

Residual Impacts After Mitigation

With implementation of SCAQMD Rule 403 and BMPs and the resulting reduction in potential for erosion, no significant impacts to geology and soils would occur as a result of Alternative 3, Configuration D.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to soil erosion due to the reduction in sediment removal and reservoir management areas and associated soil disturbance.

Due to the reduction in sediment removal and reservoir management areas and associated soil disturbance, 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 inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

GREENHOUSE GAS EMISSIONS

GHG EMISSIONS-1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Sediment Removal/Reservoir Management

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 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 usage/truck traffic and reduced overall sediment removal duration; therefore, this alternative will generate less greenhouse gas emissions than the Proposed Project, which will not be "cumulatively considerable," and is therefore less than significant under CEQA.

As with the Proposed Project, Alternative 3, Configuration D may prove a positive effect on climate change. High ambient temperatures coupled with important demand for oxygen due to the degradation of substantial amounts of organic matter favor the production of CO₂, the establishment of anoxic conditions, and thus the production of CH₄. If the reservoir is left as it is, the large quantity of biomass currently existing may exacerbate the condition. With the removal and disposal of most of the organic mass in the Scholl Canyon Landfill, which uses the green waste primarily as "alternative daily cover" (ADC), the overall benefit to the carbon ecosystem will be positive, since prior to using green waste for ADC, larger amounts of cover soil had to be imported into the landfill from offsite sources (Kong et al. 2008). Therefore, use of the green waste as ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. This potential benefit will not be as great under Alternative 3, Configuration D due to the reduction in excavation area and associated vegetation removal.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with the generation of greenhouse gas emissions will occur as a result of Alternative 3, Configuration D.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D will generate less overall greenhouse gas emissions than the Proposed Project; however, it will not produce as much green waste to be used as ADC. Use of ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. Alternative 3, Configuration D is considered environmentally superior to the Proposed Project due to overall production of greenhouse gas emissions.

Due to overall production of greenhouse gas emissions, 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 be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 associated with production of greenhouse gas emissions from removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities and associated production of greenhouse gas emissions.

GHG EMISSIONS-2 *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Sediment Removal/Reservoir Management

AB 32 identified a 2020 target level for GHG emissions in California of 427 MMT of CO₂e, which is approximately 28.5 percent less than the year 2020 BAU emissions estimate of 596 MMT CO₂e. To achieve these GHG reductions, widespread reductions of GHG emissions will have to occur across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. These reductions in mobile-sources and energy production of GHG emissions would occur with or without development of Alternative 3, Configuration D. Overall, Alternative 3, Configuration D will be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. Currently, no other GHG reduction plan (i.e., SCAG, SCAQMD, or County) applies to Alternative 3, Configuration D. As with the Proposed Project, Alternative 3, Configuration D will not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will occur as a result of Alternative 3, Configuration D.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project with respect to applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS AND HAZARDOUS MATERIALS

HAZARDS-1 *Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 3, Configuration D will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-2 *Create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials into the environment.*

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 3, Configuration D will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-3 *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 3, Configuration D will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. The proposed construction routes pass La Cañada High School and Hillside School and Learning Center. Adherence to County, State, and federal agency regulations governing the use of these materials reduces the potential for impacts to a less than significant level and will not pose a safety hazard to sensitive receptors. No mitigation measures are required.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials within one-quarter mile of an existing school to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 5, Haul Route Alternative and Alternative 6, No Project Alternative.

Alternative 3, Configuration D will be environmentally inferior to Alternative 5, Haul Route Alternative, as the Alternative 3, Configuration D construction routes pass La Cañada High School and Hillside School and Learning Center.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-4 *Located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.*

Sediment Removal/Reservoir Management

EPA included Hahamongna Watershed Park area on the NPL Superfund List due to the presence of detected VOCs and perchlorate in groundwater originating from the JPL property. The impacted groundwater is at 200 feet bgs; and, as with the Proposed Project, the concentrations of organochlorine pesticides, petroleum hydrocarbons (diesel and hydraulic/motor oil range and aromatics), and SVOCs detected in samples collected from Devil's Gate Reservoir are below regulatory thresholds. Therefore, the listing of the watershed on the Superfund List does not present a significant hazard to the public or the environment, and no significant impacts associated with the Alternative 3, Configuration D are expected.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS-5 *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Sediment Removal/Reservoir Management

Alternative 3, Configuration D sediment removal and reservoir management activities will occur onsite and will not interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies. Additionally, access to the surrounding roads will be maintained during sediment removal and reservoir management activities and will not interfere with the response facilities located adjacent to the Proposed Project site, including the County of Los Angeles Fire Department Camp 2 and the City of Pasadena Police Department located at 2175 Yucca Lane. Alternative 3, Configuration D will also increase flood control protection downstream of Devil's Gate Dam. No mitigation measures are required.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as Alternative 6, No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam. This flooding could also potentially interfere with access to roadways.

HYDROLOGY & WATER QUALITY

HYDROLOGY-1 *Violate any water quality standards or waste discharge requirements.*

Sediment Removal/Reservoir Management

FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. During both sediment removal and reservoir management phases, FAST operations will take place during winter rain events, using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. It is anticipated that these FAST operations will be similar to historic FAST operations and that sediment fines discharged during FAST operations will be transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows. As with the Proposed Project, no significant impacts to water quality standards are expected due to FAST operations.

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 3, Configuration D activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

With adherence to regulations and permit requirements and implementation of project-specific BMPs, impacts related to otherwise substantially degrading water quality will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HYDROLOGY-2 *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.*

Sediment Removal/Reservoir Management

As with the Proposed Project, with implementation of Alternative 3, Configuration D the reservoir will have the ability to contain more of the local runoff, which in turn will result in more stormwater penetrating surface sediment in the project area and subsequently recharging the groundwater basin. No significant impacts to groundwater supplies are expected.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant unavoidable adverse impacts would occur as a result of Alternative 3, Configuration D.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally inferior to the Proposed Project, due to the reduction in area to contain local runoff and reduction in percolation due to less removal of accumulated sediment.

Alternative 3, Configuration D will also be environmentally inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, due to greater area to contain local runoff and increased percolation due to removal of accumulated sediment.

HYDROLOGY-3 *Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation.*

Sediment Removal/Reservoir Management

Drainage patterns within the reservoir change on a regular basis depending on seasonal conditions, water flow, and sediment deposition. Sediment removal and reservoir management will also result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Excavation, grading, and sediment placement activities will occur under LACDPW regulations, which establish protocols for proper design of slopes and temporary sediment-collecting structures.

Although the drainage characteristics for the site will be altered, Alternative 3, Configuration D will result in a positive impact to drainage of Devil's Gate Reservoir because it will enhance the flood control abilities of Devil's Gate Dam. While Alternative 3, Configuration D will result in a small increase of impervious surface area, this small amount is not expected to significantly change drainage patterns and will not cause a significant increase in the amount of surface runoff. As such, impacts related to offsite erosion will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will result in a less than significant impact on drainage patterns.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives, except for Alternative 4, Sluicing. Alternative 3, Configuration D will be environmentally superior to Alternative 4, Sluicing due to the potential for erosion associated with the sluicing alternative.

HYDROLOGY-4 *Otherwise substantially degrade water quality.*

Sediment Removal/Reservoir Management

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 3, Configuration D activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

LAND USE & PLANNING

LAND USE-1 *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Sediment Removal

As with the Proposed Project, Alternative 3, Configuration D will not conflict with the City's General Plan or zoning designation of Open Space for the Proposed Project site and is consistent with the LACFCD easement.

As discussed in Subsection 3.8.3, Applicable Regulations, the HWPMP emphasizes protection of recreational and natural resources as well as the management of flood control for the downstream watershed. Alternative 3, Configuration D is consistent with HWPMP Goal 2 of managing the flood control basin for protection of the downstream areas by improving and maintaining the flood capacity behind Devil's Gate Dam.

Implementation of sediment removal and reservoir management will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities (see further discussion below in Recreation). With implementation of Mitigation Measure MM LAN-1, impacts associated with recreational activities coexisting with flood management and water conservation will be reduced to less than significant.

Mitigation Measure

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.

Residual Impacts After Mitigation

Impacts associated with recreational activities coexisting with flood management and water conservation would be reduced to less than significant for sediment removal and reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts to land use associated with compatibility to recreation 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, although recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

MINERAL RESOURCES

MINERALS-1 *Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.*

Sediment Removal/Reservoir Management

The Proposed Project site contains areas delineated within SMARA zone designated MRZ-2, which indicates that the area contains adequate information to indicate that significant mineral deposits are present or are judged to have a high likelihood for their presence (City of Pasadena 2002). As with the Proposed Project, under Alternative 3, Configuration D, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment removal is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts to mineral resources that will be of value to the region and residents of the state.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D will also be neither environmentally superior nor inferior to any of the other alternatives.

MINERALS-2 *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

While the Arroyo Seco Master Plan EIR (2002) states that the reservoir may contain large quantities of arroyo stone, the Proposed Project site is not delineated as a locally important mineral resource recovery site on a local general plan, specific plan, or other local land use plan. As with the Proposed Project, under Alternative 3, Configuration D, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment excavation is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts to availability of a locally important mineral resource recovery site.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to any other alternative.

NOISE & VIBRATION

NOISE-1 *Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Sediment Removal/Reservoir Management

Onsite Construction Equipment Noise

Alternative 3, Configuration D sediment removal activities will take place Monday through Friday between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings

Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday. This alternative will use the same amount and type of construction equipment as the Proposed Project. Since the removal of sediment activities will require a greater amount of equipment than the reservoir management activities, calculations for onsite construction equipment noise have been based on the sediment removal activities equipment list.

Noise impacts from onsite construction equipment activities associated with Alternative 3, Configuration D will be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. Construction noise impacts will be the same as those associated with the Proposed Project to the nearby sensitive receptors and are shown below in Table 4.6-6.

Table 4.6-6: Alternative 3 Onsite Construction Equipment Noise Levels at Nearby Sensitive Receptors

Receptor Description	Receptor Jurisdiction	Distance to Receptor (feet)	Construction Noise Levels ¹	
			dBA Leq	dBA L _{max}
Single-Family Home	Pasadena	140	71	73
Single-Family Home	Los Angeles County	180	69	71
JPL Office	La Cañada Flintridge	200	68	70
Hahamongna Watershed Park	Pasadena	20	86	90
La Cañada High School	La Cañada Flintridge	430	63	63
La Cañada Methodist Church	La Cañada Flintridge	500	62	62

Notes:

¹ L_{max} is based on the maximum noise from the loudest piece of equipment and the Leq is the average noise from all equipment.

Source: RCNM, Federal Highway Administration, 2006

Table 4.6-6, above, shows that construction noise impacts will range from 62 dBA Leq to 86 dBA Leq at the nearby receptors, with the highest noise levels occurring at the portion of Hahamongna Watershed Park that is adjacent to the west side of the reservoir.

The City of Pasadena exempts public agencies from the Municipal Code noise requirements. The County of Los Angeles exempts flood control maintenance and construction operations from noise restrictions. The City of La Cañada Flintridge does not provide maximum noise thresholds of construction noise that occurs during the allowed times between Monday through Friday of 7:00 a.m. to 6:00 p.m. Standard Time and 7:00 a.m. to 7:00 p.m. Daylight Savings Time and on Saturday between 7:00 a.m. and 5:00 p.m. Therefore, Alternative 3, Configuration D will comply with all local ordinances due to sediment removal and reservoir management activities taking place during the allowed hours.

Offsite Vehicular Noise

Alternative 3, Configuration D sediment removal and reservoir management activities will generate the same number of daily haul truck trips as the Proposed Project: up to 425 daily round trips and 200 daily round trips, respectively. Therefore, potential noise impacts created by the offsite vehicle trips from Alternative 3, Configuration D will be the same as those generated from the Proposed Project; however, due to the shorter time frame for removing the material the impact will be lessened. Overall, as with the Proposed Project, roadway noise impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 3, Configuration D will comply with all local noise ordinances, and roadway noise impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts associated with noise levels due to the shorter time frame for removing the material.

Due to the shorter time frame for removing the material, 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 be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 3, Configuration D could 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 downstream associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-2 *Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Sediment Removal/Reservoir Management

As with the Proposed Project, only the nearby single-family homes in the City of Pasadena would experience vibration levels that would exceed the 0.01-inch-per-second vibration standard. This potentially significant impact will be reduced to less than significant through implementation of Mitigation Measure MM N-1. In addition, this impact will be reduced in comparison to the Proposed Project, as sediment removal under this alternative is expected to have a shorter duration.

Mitigation Measures

MM N-1: 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.

Residual Impacts After Mitigation

Through implementation of Mitigation Measure MM N-1, the onsite construction equipment vibration impacts to nearby sensitive receptors would be reduced to less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts associated with vibration levels due to the shorter time frame for removing the material.

Due to the shorter time frame for removing the material, Alternative 3, Configuration D will also be environmentally superior to all other alternatives except Alternative 4, Sluicing and Alternative 6, No Project Alternative. Alternative 3, Configuration D will be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 3, Configuration D could 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 downstream associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-3: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Sediment Removal/Reservoir Management

Alternative 3, Configuration D will not create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing noise levels. For this analysis, both the sediment removal activities and reservoir management activities have been considered as temporary activities, since they would occur only for limited durations of time. The construction activities associated with the removal of the sediment may create temporary onsite noise impacts from the operation of construction equipment as well offsite noise impacts from the use of haul trucks to export material offsite.

Onsite Construction Equipment Noise

As with the Proposed Project, the onsite equipment that will be operated under Alternative 3, Configuration D will not conflict with any construction noise standards. Any temporary increase in noise level from onsite construction noise will be less than significant. Therefore, potential noise impacts due to onsite construction from Alternative 3, Configuration D will be the same as those generated from the Proposed Project; however, due to the shorter time frame for removing the material the impact will be lessened.

Offsite Vehicular Noise

As with the Proposed Project, the offsite vehicular trips associated with Alternative 3, Configuration D will not create an exceedance of the normally acceptable noise standards for nearby sensitive land uses for locations that do not already exceed the standards for existing conditions. The analysis also found

that for the locations that currently exceed the normally acceptable noise standard, noise contribution from Alternative 3, Configuration D to these roadway segments will be within the Federal Transit Administration's allowable noise exposure increase levels. Therefore, the temporary noise level increase created from offsite vehicular noise impacts will result in a less than significant impact. Therefore, potential noise impacts from offsite vehicular trips from Alternative 3, Configuration D will be the same as those generated from the Proposed Project, however, due to the shorter time frame for removing the material the impact will be lessened.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Temporary noise level increase from onsite construction noise and offsite vehicular noise would be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to impacts associated with noise levels due to the shorter time frame for removing the material.

Due to the shorter time frame for removing the material, 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 be environmentally inferior to Alternative 4, Sluicing due to hauling activities. Alternative 3, Configuration D could 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 downstream associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

RECREATION/PUBLIC SERVICES

RECREATION-1 *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Alternative 3, Configuration D will not result in the construction of new residences, or facilitate the development of residences, or result in an increase in area population. Therefore, implementation of Alternative 3, Configuration D will not result in increased use or the physical deterioration associated with increased use for neighborhood or regional parks or other recreational facilities due to any increases in area population.

Sediment Removal Impacts

As with the Proposed Project, under Alternative 3, Configuration D sediment removal will occur over the course of five years. During this, most of the Proposed Project site will be closed to public use from the dam face to the edge of this Alternative's excavation limit boundaries (see Figure 4.6-1 and Figure 4.6-2). Alternative 3, Configuration D will have a potential impact on recreational opportunities through temporarily restricted access to trails and long-term alteration of the landscape. Maintenance roads within the basin are used by the LACFCD, Southern California Edison (SCE), and the City of Pasadena, among others, for operations and maintenance of Devil's Gate Reservoir and other facilities in the area. The majority of the maintenance roads will be closed during sediment removal; however, these roads are not officially designated for recreational uses and are often not available for unofficial recreation use due to reservoir water levels or maintenance activities.

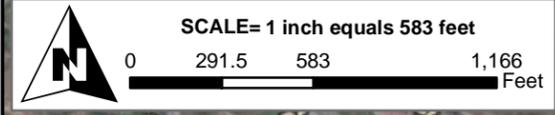
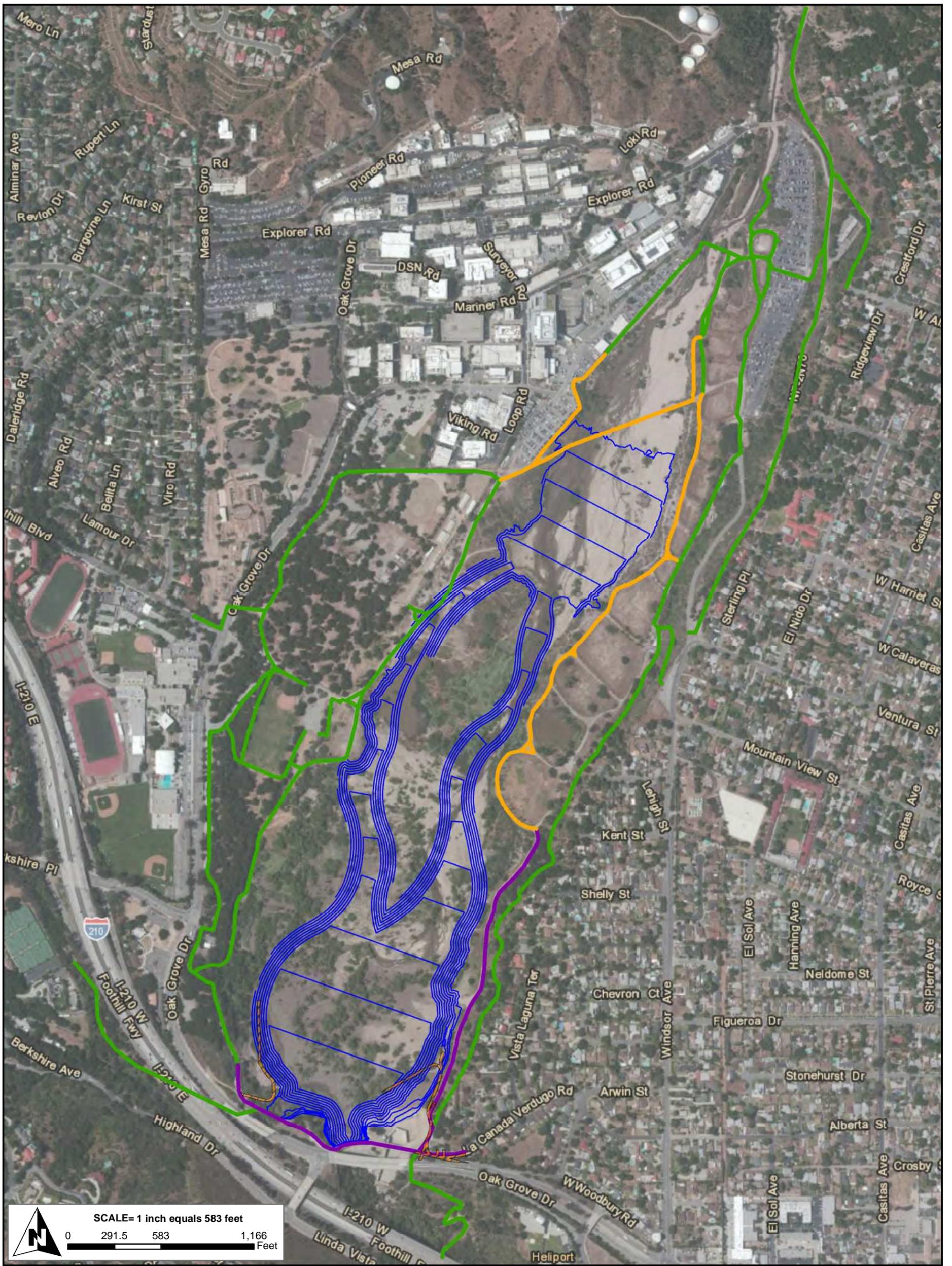
Designated Recreational Uses

As detailed below, implementation of sediment removal will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities. These impacts may increase the use of other area parks and recreational facilities such as those described in Table 3.15-1: Area Recreational Facilities. The Oak Grove area of Hahamongna Watershed Park and the associated facilities including Oak Grove Disk Golf Course will remain open during sediment removal and will continue to provide active recreational facilities to the area. Sediment removal activities will not limit the use of the Oak Grove area of Hahamongna Watershed Park by individuals or by organizations such as the Oak Grove Disc Golf Club, the Rose Bowl Riders, MACH 1, or the Tom Sawyer Camp.

Activities such as hiking, biking, horseback riding, bird watching, and nature walks will be limited to trails located outside the excavation boundary or to trails opened in absence of removal activities. Of the six designated trails in and adjacent to the Proposed Project site, three of these trails, Flint Wash Trail, Gabrielino Trail, and Gould Canyon Trail, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Small portions of the Altadena Crest Trail, Arroyo Seco Trail, and West Rim Trail will either be closed when sediment removal activities are under way and/or are near the trail. A very small portion of the Altadena Crest Trail will be closed during the whole sediment removal phase.

Figure 4.6-14: Alternative 3, Configuration D, Option 1 Impacts to designated Trails shows the location of the different access conditions during sediment removal for Alternative 3, Configuration D, Option 1. Figure 4.6-15: Alternative 3, Configuration D, Option 2 Impacts to Designated Trails shows the location of the different access conditions during sediment removal for Alternative 3, Configuration D, Option 2.

Sediment removal activities associated with this alternative will not limit or block access to the Oak Grove area and many of the designated trails and will not result in direct potentially significant impacts to these facilities; however, use of these facilities may be less desirable due to construction-related emissions, noise, dust, visual, and traffic impacts associated with sediment removal. These temporary, indirect impacts will reduce the quality of the recreational experience.

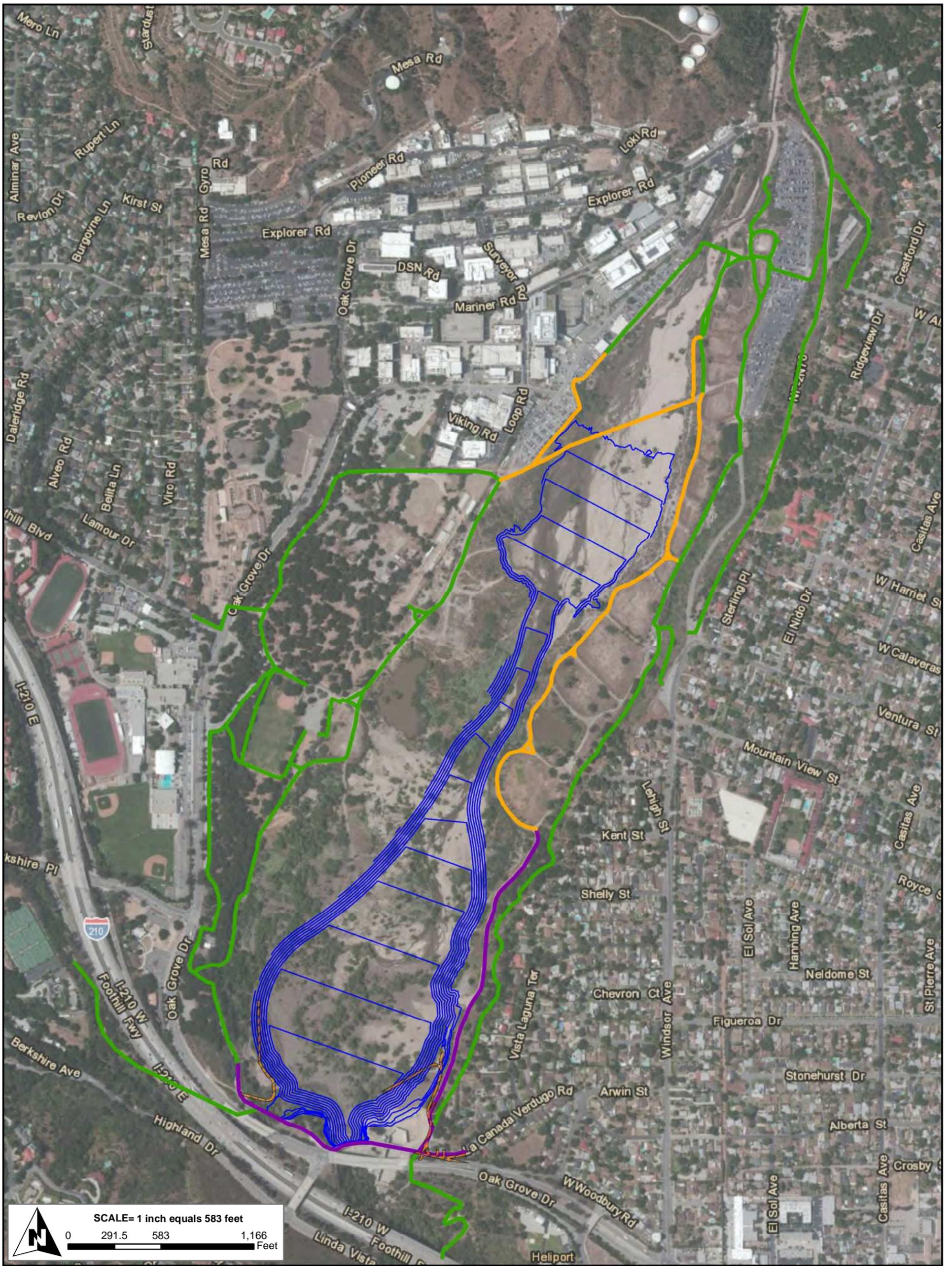


- Project Boundary
- Access Road
- Sediment Removal Excavation Limit
- Trail & Maintenance Road Closures**
- Closed during the full duration of sediment removal
- To remain open during sediment removal
- Closed during sediment removal with possible opening on a seasonal basis
- Temporarily closed while sediment removal is occurring in the area

Figure 4.6-14
Impacts To Designated Trails Map
 Alternative 3 - Configuration D, Option 1

Version Date: 8/20/2014





- Project Boundary
- Access Road
- Sediment Removal Excavation Limit
- Trail & Maintenance Road Closures**
- Closed during the full duration of sediment removal
- To remain open during sediment removal
- Closed during sediment removal with possible opening on a seasonal basis
- Temporarily closed while sediment removal is occurring in the area

Figure 4.6-15
Impacts To Designated Trails Map
 Alternative 3 - Configuration D, Option 2

Version Date: 8/20/2014



Indirect impacts to recreation associated with sediment removal under Alternative 3, Configuration D will be reduced in comparison to the Proposed Project due to the reduction in excavation area and associated sediment removal activities. In addition, for Alternative 3, Configuration D, Option 1 approximately 44.43 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include swaths along the west and east sides of the site and in the center of the site between the two excavated branches. For Alternative 3, Configuration D, Option 2 approximately 50.42 acres of the approximately 120.42 acres of the Proposed Project site will be left undisturbed. This will include a swath along the east side of the site as well as a large, contiguous area on the west side of the reservoir. These areas of undisturbed vegetation left throughout will serve to screen some of the ongoing recreation uses from the sediment removal activities and associated construction-related emissions, noise, dust, and visual impacts.

Recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities. Due to the number of other recreational facilities and trails in the vicinity, it is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 3, Configuration D will not increase use of other existing parks or recreation facilities such that substantial physical deterioration of these facilities will occur or be accelerated. Impacts to other existing parks and recreation facilities will be temporary and less than significant. Sediment removal under this Alternative could potentially have a shorter duration than the Proposed Project due to the reduced amount of sediment to be removed. This shorter duration could further reduce the temporary and less than significant impacts to other existing parks and recreation facilities.

Reservoir Management Impacts

After the annual proposed reservoir management, access to Devil's Gate Reservoir will be similar to existing conditions. Every year the reservoir will be temporarily closed to public access for reservoir management. This will occur during the late summer/early fall over an estimated five-week period, Monday through Friday. The length of time will vary depending on the amount of sediment deposited in the reservoir over the course of the year. The Oak Grove area of Hahamongna Park and most of the designated trails will remain open during reservoir management activities and will continue to provide active recreational facilities to the area. The proposed reservoir management activities will typically occur only during the weekdays; therefore, weekend visitors of the Hahamongna Watershed Park will not be affected by the proposed reservoir management activities. Trails will be beneficially affected in the long-term through the reduction of potential disruption by flooding and/or being buried under sediment. Impacts to existing parks and recreation facilities associated with Alternative 3, Configuration D reservoir management activities will be less than significant. In addition, the reservoir management area under Alternative 3, Configuration D will be much smaller than under either Proposed Project reservoir management options.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts associated with increased use of other existing parks or recreation facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project with respect to recreation uses 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

RECREATION-2 *Require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment.*

As discussed in detail above under RECREATION-1, recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities during reservoir management activities. It is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 3, Configuration D will not require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment, resulting in a less than significant impact. Sediment removal under this Alternative could potentially have a shorter duration than the Proposed Project, due to the reduced amount of sediment to be removed. This shorter duration could further reduce the temporary and less than significant impacts to other existing parks and recreation facilities.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

PUBLIC SERVICES-1 *Result in substantial adverse impacts associated with the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.*

As discussed in detail above under RECREATION-2, Alternative 3, Configuration D will not result in a substantial increase in use of any one park or facility. Therefore, Alternative 3, Configuration D will not require the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project 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; Alternative 4, Sluicing; and Alternative 5, Haul Route Alternative.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

TRANSPORTATION & TRAFFIC

TRANSPORTATION-1 *Conflict with an applicable plan, ordinance, or policy establishing measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Sediment Removal

Truck traffic associated with Alternative 3, Configuration D is expected to adhere to traffic regulations; however, during sediment removal, Alternative 3, Configuration D truck traffic is expected to impact traffic LOS on the existing roadway network. Potential impacts regarding existing LOS are discussed under TRANSPORTATION-2 below. This increase in traffic would result in temporary significant impacts to the efficiency of the circulation system. Implementation of Mitigation Measures MM TRA-1 and TRA-2 would reduce this impact but not to a level of less than significant.

Sediment removal and associated transportation under this Alternative could potentially have a shorter duration than the Proposed Project, due to the reduced amount of sediment to be removed. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant.

Reservoir Management

Truck traffic associated with reservoir management is not expected to adversely affect traffic LOS on the existing roadway network. Therefore, impacts to the efficiency of the circulation system would be less than significant.

Mitigation Measures

MM TRA-1: Proposed Project haul trucks will not deliver to the Vulcan Material Reliance Facility during the PM peak period.

MM TRA-2: Proposed Project haul trucks will not deliver to the Boulevard Pit during the PM peak period.

Residual Impacts after Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce impacts to traffic and circulation but not to a level of less than significant. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B and Alternative 2, Configuration C.

Alternative 3, Configuration D will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 3, Configuration D will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 transportation associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

TRANSPORTATION-2 *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Sediment Removal

As with the Proposed Project, Alternative 3, Configuration D will not significantly impact freeway segments and freeway on- and off-ramps but will significantly impact the following intersections:

- Berkshire Place and I-210 eastbound ramps during the AM peak period;
- Irwindale Avenue/Foothill Boulevard intersection during the PM peak hour;
- Figueroa St/Scholl Canyon Road and SR-134 westbound ramps during the AM and PM peak hours;
- Glenoaks Boulevard/Osborne Street intersection during the AM and PM peak hours;
- Sheldon Street and San Fernando Road intersection during the PM peak hour; and
- Branford Street and San Fernando Road intersection during the PM peak hour.

In order to reduce the impacts to the Berkshire Place and I-210 eastbound ramps intersection during the AM peak period, sediment removal trucks would have to use an alternative route during this period. This alternative route would involve as follows: Loaded trucks will exit the reservoir on the improved, existing westerly access road, turning left onto southbound Oak Grove Drive, then right onto westbound

Windsor Avenue, and then east onto I-210 east, to disposal sites in Azusa and Irwindale or I-210 west to the Sun Valley disposal sites.

Under this route all the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections for the AM Peak Period; however, use of this alternative route would require implementation of the following potential impact reduction measure:

- Proposed Project haul trucks would avoid using the Berkshire Place and I-210 eastbound ramps intersection during the AM peak period by instead using the Windsor/Arroyo and I-210 ramps. This would require the median on Oak Grove Drive to be restriped to a Two Way Left Turn Lane (TWLTL). The changes to Oak Grove Drive would require the approval of the City of Pasadena.

The impact reduction measure discussed above cannot be legally imposed by the LACFCD since the location is under the jurisdiction of the City of Pasadena. Every reasonable effort will be made to coordinate with and receive approval to implement this impact reduction measure; however, LACFCD cannot guarantee that this impact reduction measure will be implemented. Therefore this temporary impact would remain potentially significant.

The Irwindale Avenue/Foothill Boulevard intersection is anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact. Mitigation Measure MM TRA-1 would reduce the impact to the Irwindale Avenue/Foothill Boulevard intersection to less than significant.

The Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact. Reducing this impact to less than significant would require implementation of the following potential impact reduction measure:

- Figueroa Street/Scholl Canyon Road and SR-134 westbound ramps: Restripe the westbound right turn lane to a shared left-right turn lane and the northbound through lane to a shared through-right turn lane. The northbound direction will include a shared through-right turn lane and a right turn lane. The southbound direction will include a shared through-left turn lane and a through turn lane. The westbound direction will include a left turn lane and a shared left-right turn lane. This impact reduction measure will require the approval of the City of Los Angeles and Caltrans.

Implementation of the impact reduction measure discussed above would reduce the impact to the Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection to less than significant. This impact reduction measure cannot be legally imposed by the LACFCD. Every reasonable effort will be made to coordinate with and receive approval to implement the impact reduction measure; however, LACFCD cannot guarantee that the measure will be implemented therefore this temporary impact could remain significant.

The Glenoaks Boulevard and Osborne Street intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact.

The Sheldon Street and San Fernando Road intersection and the Branford Street and San Fernando Road intersection are anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in

temporary significant impacts. Mitigation Measure MM TRA-2 would reduce the impacts to less than significant.

Reservoir Management

The reservoir management associated with Alternative 3, Configuration D would require periodic management activities at the Devil's Gate Reservoir. Depending on storm events, sediment excavation/trucking offsite may be required over a period of a few weeks annually. Daily truck traffic is expected to be half the amount that will occur during sediment removal. Due to the limited time period and the reduced truck traffic, reservoir management activities are not expected to adversely affect traffic level of service on the existing roadway network. Therefore, impacts would be less than significant.

Mitigation Measure

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B and Alternative 2, Configuration C.

Alternative 3, Configuration D will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 3, Configuration D will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 transportation associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

TRANSPORTATION-3 *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Sediment Removal

Implementation of Alternative 3, Configuration D may include impact reduction measures described above that would require modifications to the existing roadway network. These modifications would consist of roadway restriping to reduce potential traffic impacts to a level less than significant. These changes would not alter existing roadway use and would be implemented consistently with all applicable traffic safety standards. Alternative 3, Configuration D is limited to excavation and transportation of sediment that has accumulated in Devil's Gate Reservoir and would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, impacts related to traffic hazards would be less than significant.

Reservoir Management

The reservoir management associated with Alternative 3, Configuration D would not require any modifications to the existing roadway network and would not introduce any new uses that would be incompatible with the existing roadway system. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project or to any of the other alternatives as it would not introduce any new uses that would be incompatible with the existing roadway system.

TRANSPORTATION-4 *Result in inadequate emergency access.*

Sediment Removal/Reservoir Management

Alternative 3, Configuration D would not sever or otherwise block access to any existing roadways. No equipment staging will occur on public roadways during construction of the Proposed Project. The impact to emergency access would be a less than significant impact.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project or any other alternative except for Alternative 6, No Project Alternative.

Alternative 3, Configuration D will be environmentally superior to Alternative 6, No Project Alternative as the No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

TRANSPORTATION-5 *Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Sediment Removal

Alternative 3, Configuration D would be confined to the roadway network described in Section 3.16.2 and would not adversely affect alternative modes of public transportation such as light rail. Implementation of Alternative 3, Configuration D would not require closure of any bus stops or disrupt any existing bus routes. The degrading of LOS at intersections, freeway segments, and freeway on- and off-ramps, described above under TRANSPORTATION-2, could affect buses using the existing roadway network. This would be a potentially temporary significant impact.

Reservoir Management

The reservoir management associated with Alternative 3, Configuration D would require periodic management activities at Devil's Gate Reservoir that would not adversely affect traffic LOS on the existing roadway network that could delay bus services. Therefore, reservoir management impacts would be less than significant.

Mitigation Measure

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less

than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered environmentally superior to the Proposed Project due to the reduction in sediment removal and reservoir management areas.

Due to the reduction in sediment removal and reservoir management areas, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B and Alternative 2, Configuration C.

Alternative 3, Configuration D will be environmentally inferior to Alternative 5, Haul Route Alternative as the Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 3, Configuration D will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 transportation associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

UTILITIES & SERVICE SYSTEMS

UTILITIES-1 *Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Sediment Removal

As with the Proposed Project, during sediment removal Alternative 3, Configuration D will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment and vegetation removal operations will result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Although the drainage characteristics for the site will be altered, the project overall will result in a positive impact to drainage of Devil's Gate Reservoir because it will help restore the flood control capacity of Devil's Gate Dam and Reservoir. As with the Proposed Project, Alternative 3, Configuration D will add minimal impermeable surface area to the Proposed Project site through paving a portion of the access roads from Oak Grove Drive. This minimal increase in impervious surface area will not result in any significant increase in stormwater runoff that will require new stormwater drainage facilities.

In addition, these activities will not directly involve the existing storm drain outfalls, power lines, gas line, communication lines, water lines, sewer lines, or water wells. Impacts to these utility facilities will be avoided through compliance with City regulations regarding utility facilities, coordination with utility providers, and implementation of LACDPW BMPs.

Reservoir Management

During reservoir management, Alternative 3, Configuration D will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment that accumulates after the proposed removal will be removed through FAST operations or through mechanical excavation and trucking. The FAST operations are expected to be similar to historic FAST operations, and sediment fines discharged through FAST operations will be transported during storm flows to the Pacific Ocean via Arroyo Seco and the Los Angeles River. No impacts to stormwater facilities are expected during FAST operations. Any necessary mechanical removal during reservoir management is expected to be small (typically 13,000 cy per year). Impacts to stormwater facilities during mechanical removal will be avoided through compliance with City regulations regarding stormwater facilities and implementation of LACDPW BMPs.

Mitigation Measure

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts to utility facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 3, Configuration D is considered neither environmentally superior nor inferior to the Proposed Project nor to any of the other alternatives.

4.6.4 Conclusion and Relationship to Project Objectives

Alternative 3, Configuration D will meet the Proposed Project's objectives of satisfactorily increasing flood protection, creating a configuration suitable for routine operations and maintenance, reducing the possibility of plugging at the dam face, removing sediment from Johnson Field, removing sediment in a timely manner, and delivering sediment to facilities already prepared to accept sediment.

Alternative 3, Configuration D Alternative is considered environmentally superior to the Proposed Project due to reduced impacts associated with sediment removal and reservoir management.

Due to the reduction in sediment removal and reservoir management areas, Alternative 3, Configuration D will also be environmentally superior to Alternative 1, Configuration B and Alternative 2, Configuration C.

Alternative 3, Configuration D is considered environmentally superior to Alternative 5, Haul Route Alternative due to reduced impacts associated with sediment removal and reservoir management. Alternative 3, Configuration D will be environmentally inferior to Alternative 5, Haul Route Alternative, however, with impacts associated with traffic.

Alternative 3, Configuration D will be initially environmentally inferior to Alternative 4, Sluicing due to hauling sediment and vegetation from the reservoir. This 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 associated with removal activities.

Alternative 3, Configuration D will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities; although aesthetics, biological resources, and recreation resources of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

4.7 ALTERNATIVE 4, SLUICING METHOD

4.7.1 Alternative Description

Sediment Removal

The Sluicing Alternative will remove the approximately 2.9 million cy of current excess sediment in the reservoir in addition to any additional sediment received during the project. Alternative 4, Sluicing will involve the removal of sediment from the reservoir through sluicing. Sediment stockpiled at Johnson Field as part of the IMP will also be sluiced. Through sluicing, sediment will be moved downstream to the Arroyo Seco. Sluicing will initially transport heavier and greater amounts of sediments downstream; however, as described in the sediment transport study (Appendix K), the sediment transport during historically typical flows and standard dam operations was found to be incapable of flushing excess sediment down the length of the Arroyo Seco Channel. After approximately 9.5 months of sluicing under historically typical flows, followed by an additional 6 months of historically typical sediment flushing flows, approximately 20,000 cy of sediment will be conveyed to the Los Angeles River, leaving approximately 243,000 cy of sediment in the Arroyo Seco Channel, with deposits primarily occurring in and around the natural reaches. As demonstrated, it is likely that sediment loads will fall out rapidly after leaving Devil's Gate Reservoir. This sediment would eventually need to be removed from the Arroyo Seco Channel.

Reservoir Configuration

Any mechanical activity (as described below) will take place within the same area as the Proposed Project's excavation limit boundaries (see Figure 4.7-1: Alternative 4, Sluicing Sediment Removal and Reservoir Management Areas). Sediment removal will occur throughout the reservoir, depending on the amount and direction of water flow entering the reservoir. In addition, prior to sediment removal, vegetation removal will be required throughout the reservoir. As part of this Alternative, sediment stockpiled at Johnson Field as part of the IMP may also be removed.

Removal Method

Before sluicing is initiated, all vegetation and trees will be removed from within the excavation limit boundaries (see Figure 4.7-1) or where haul roads are located. The removed vegetation will be transported to the Scholl Canyon Landfill for use as alternate daily cover (ADT). After the initial

vegetation and tree removal, vegetation within the excavation footprint will be mowed or removed and grubbed annually during the sediment removal phase of the alternative.

Sluicing differs from FAST operations in the amount and weight of sediment transported. FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. FAST operations will take place using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. The sediment fines discharged during historic FAST operations are transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows.

Sluicing utilizes flowing water to transport sediment. In order to remove large amounts of accumulated sediment, the sluicing operation also involves mechanically agitating sediment to increase the sediment suspended in the water flowing through the reservoir and then opening the sluice gates to allow the sediment-laden water to be discharged downstream. Mechanical agitation is achieved by using bulldozers and other heavy equipment to actively push sediment into the flow path of the water. Two methods for sluicing will be utilized for this removal method:

- Prior to storm flows entering the reservoir, loose sediment will be pushed into an empty, defined channel to be picked up when future stormwater flows pass through the reservoir; or
- Sediment will be pushed into a channel that is already flowing with storm or recession water.

When flow rates entering the reservoir are below 150 cfs, rates of mechanical agitation will be adjusted to achieve an optimal sediment to water ratio to produce an efficient sluicing operation. When flows are over 150 cfs, mechanical agitation will cease and heavy equipment will be moved out of the flood plain.

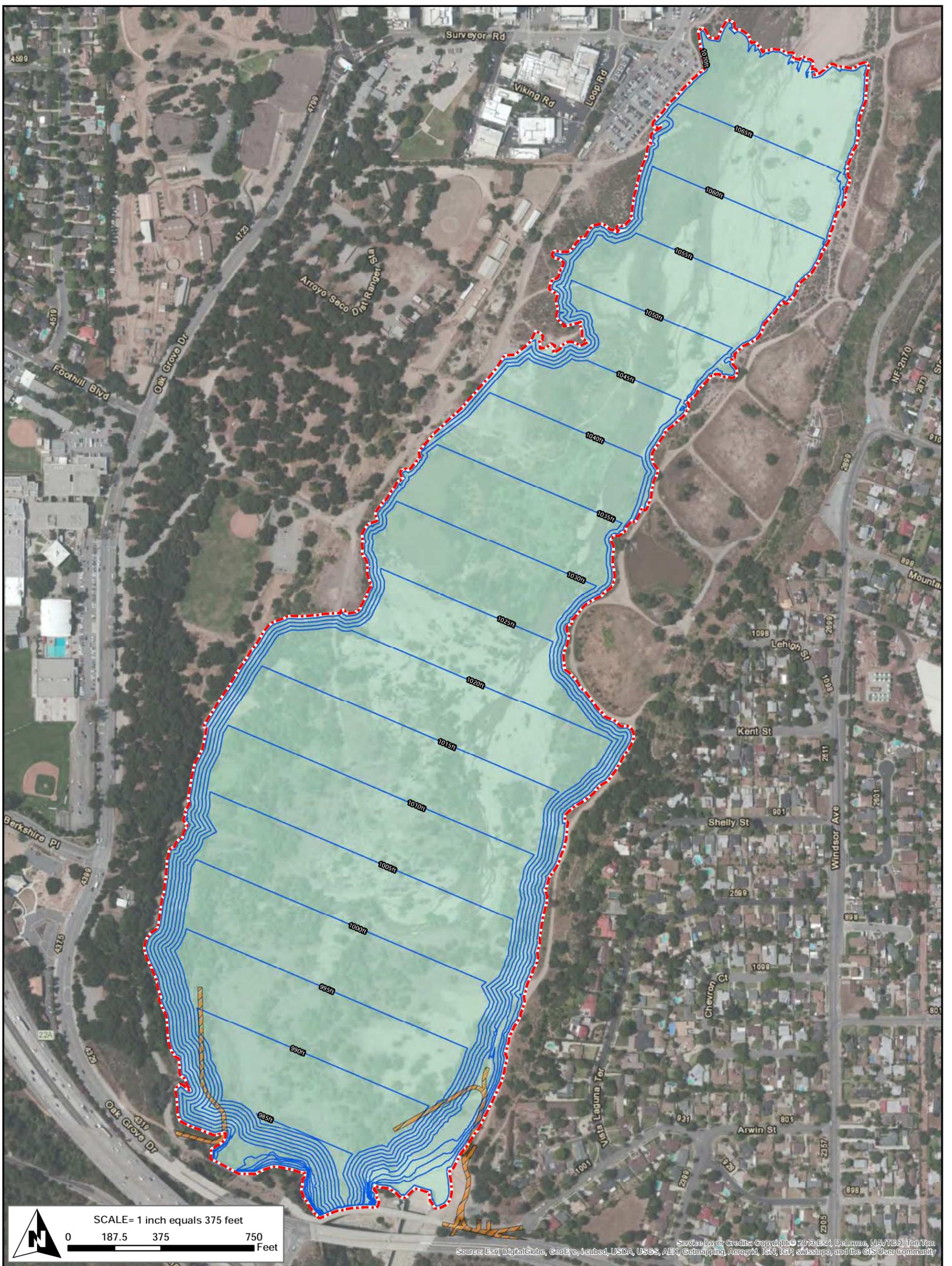
The amount of sediment that will be removed through sluicing operations is limited by the amount of storm runoff received into the reservoir.

Sediment Disposal

Sediment transported during the sluicing operations will be discharged to the Pacific Ocean via Arroyo Seco and the Los Angeles River either via the discharge flow or subsequent storm flows. If proper sediment transport does not occur and sediment deposits develop along the route to the ocean, sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach may be required.

Project Schedule

Sluicing activities within the reservoir area will take place during the storm season. Any activities involving heavy equipment will take place between the hours of 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m.



- Proposed Project Boundary
- Access Road
- Reservoir Management Area
- Sediment Removal Excavation Limit

Figure 4.7-1
Sluicing Sediment Removal and
Reservoir Management Areas
Alternative 4

Version Date: 10/18/2013



Total project duration of this alternative will depend on future yearly storm flows and is therefore difficult to estimate. Sediment transport studies (see Appendix K) indicate, if successful, removal of the 2.9 million cy of sediment could take several decades. The estimated removal time for 1 million cy of sediment is 52 years; thus, removal of 2.9 million cy would take approximately 150 years to complete under the Sluicing Alternative (Bureau Veritas 2013).

Reservoir Management

Since the main sluicing portion of the project is projected to occur over a period of multiple decades, reservoir management will begin after the large-scale sediment removal is completed. Under reservoir management, sluicing will occur as needed due to sediment accumulation in the reservoir. The access roads will be maintained to provide proper road width for access.

Vegetation Maintenance

Vegetation within the maintenance footprint will be mowed or removed and grubbed annually, involving a total maintenance acreage of approximately 120.42 acres. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall. Vegetation outside the maintenance footprint will be allowed to naturally re-establish and/or remain in place.

4.7.2 Alternative Duration

A large-scale sediment removal project will be required if a significant amount of sediment accumulates in the reservoir or outside the maintenance footprint despite the reservoir management activities. Sediment inside and outside the maintenance footprint will be monitored to determine if the sediment buildup is exceeding projected volumes. The need for a larger cleanout depends on the success of the sluicing as well as the total amount of future sediment inflow. If sluicing activities prove to be successful, sediment outside the maintenance footprint will be monitored. If future reservoir conditions threaten dam operations, LACFCD will initiate the planning process for a new large-scale sediment removal project. Part of this planning will involve utilizing the CEQA process to evaluate and determine the appropriate level of environmental document required for the future project.

4.7.3 Impact Analyses and Comparison to Proposed Project

AESTHETICS

AESTHETICS-1 *Have a substantially adverse effect on a scenic vista.*

Sediment Removal

Sediment removal activities associated with Alternative 4, Sluicing will change the visual characteristics of the reservoir through the removal of sediment and associated vegetation in the reservoir. As with the Proposed Project, sediment removal activities associated with Alternative 4, Sluicing will not result in obstruction or blockage of views, due to the large difference in elevation between viewpoints and the Proposed Project site.

Construction equipment will be visible in the basin. Views of construction equipment will be expected elements in the viewshed, due to the ongoing IMP measures currently underway to keep debris from

plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures or for the Proposed Project.

With sediment removal under Alternative 4, Sluicing, the topography of the reservoir will be lower, especially at the south end of the reservoir; and all vegetation within the excavation limits will be removed. These elements will result in a high degree of contrast from existing visual characteristics and will result in a potentially significant impact to scenic vistas. These contrasting elements will be highly visible for Viewpoints 1 through 3. For Viewpoints 1 and 3, however, the co-dominant features of Devil's Gate Dam, the reservoir maintenance roads, electrical lines, the debris boom line, and other less dominant features of the San Gabriel Mountains, Oak Grove Drive, JPL facilities, and residential areas will remain unchanged. In addition, the existing vegetation along the west side of the reservoir will not be removed and will share dominance with the dam and the excavation area.

Sediment removal activities will also be visible from Viewpoint 4 and Viewpoint 5 but will be less dominant due to distance and other more dominant visual elements. The dominant features for Viewpoint 4 (I-210, Devil's Gate Dam, San Gabriel Mountains, and the west side of the reservoir) and Viewpoint 5 (spreading grounds, JPL facilities) will remain unchanged.

As with the Proposed Project, excavation and associated activities within the reservoir area are expected to take place during dryer months, from April to December, as weather permits. During the wetter months, changes to the visual characteristics associated with sediment removal will be slightly less apparent when water is stored in the basin. Some regrowth of riparian vegetation will likely occur during this time. Both these factors will reduce the change in the visual characteristics associated with sediment removal. In addition, as discussed above, sediment removal activities will not introduce view-obstructing features.

Nevertheless, due to the multi-year duration of the sediment removal phase under Alternative 4, Sluicing, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to scenic vistas. Not only will the sediment removal associated with Alternative 4, Sluicing result in a potentially significant impact to scenic vistas, the duration of sediment removal activities will be longer than the Proposed Project due to the alternate removal method.

Reservoir Management

As with the Proposed Project, reservoir management will not result in obstruction or blockage of views. Construction equipment will also be visible in the basin but only for short periods of time.

After completion of the proposed sediment removal activities associated with Alternative 4, Sluicing, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. The area available for regrowth will be the same as reservoir management Option 1 under the Proposed Project.

The majority of the reservoir will not be allowed to naturally grow and/or remain in place, as the reservoir management area is the entire Configuration A excavation area. Therefore, reservoir management under Alternative 4, Sluicing will result in a similar degree of contrast as seen during sediment removal and will result in a potentially significant impact to scenic vistas. Any contrast

associated with this Alternative will be the same as reservoir management Option 1 under the Proposed Project.

Mitigation Measure

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation measures, impacts to scenic vistas from sediment removal activities will remain potentially significant.

Reservoir management impacts to scenic vistas will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts on scenic vistas due to the extended time frame for sediment removal through sluicing.

Due to the extended time frame for sediment removal through sluicing, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will also be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities; although views of the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition.

AESTHETICS-2 *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 4, Sluicing will not involve damage to rock outcroppings or historic buildings but will involve removal of vegetation, including native and non-native trees from the site to a similar degree as the Proposed Project. The Proposed Project site is not visible from the only designated state scenic highway in the vicinity of the Proposed Project site, SR-2. Therefore, implementation of this alternative will not damage scenic resources within the viewshed of a designated state scenic highway.

I-210, located to the south of the Proposed Project site, is identified as "Eligible" in the State Scenic Highway Program. Alternative 4, Sluicing will impact the existing visual character of a portion of the viewshed through the removal of vegetation including native and non-native trees from the site. This impact to visual character of a portion of the viewshed will be reduced in comparison to the Proposed Project due to the reduction in sediment removal and reservoir management areas and associated activities. In addition, views of the Proposed Project site from I-210 are very brief in nature (visibility for

approximately 0.3 mile) and are dominated by views of the JPL facilities and San Gabriel Mountains. Implementation of Alternative 4, Sluicing will not obstruct views of these features. Therefore, impacts to scenic resources within this eligible but not designated state scenic highway will be less than significant.

Mitigation Measure

No mitigation is necessary.

Residual Impacts After Mitigation Measure

The Proposed Project site is not visible from any designated state scenic highway and is only briefly visible from an eligible state scenic highway; therefore, impacts related to state scenic highways from sediment removal and reservoir management are less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts related to state scenic highways from sediment removal and reservoir management due to the extended time frame for sediment removal through sluicing.

Alternative 4, Sluicing will be environmentally inferior to all the other alternatives due to the duration of sediment removal and reservoir management activities.

AESTHETICS-3: *Substantially degrade the existing visual character or quality of the site and its surroundings.*

Sediment Removal

As described above under AESTHETICS-1, the proposed sediment removal activities associated with Alternative 4, Sluicing will change the visual characteristics of the existing Proposed Project site through the removal of sediment and associated vegetation in the reservoir.

Disturbed landscape areas, both man-made and natural, are currently found throughout the basin. The amount and distribution of these areas change on a regular basis and are expected visual elements in the Proposed Project site landscape. Construction equipment will also be visible in the basin. Views of construction equipment will be expected elements in the viewshed due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures or for the Proposed Project.

Sediment and debris management are considered existing operational components of Devil's Gate Reservoir and are not considered potentially significant impacts to the visual characteristics of the site (City of Pasadena 2002). During the sediment removal phase of Alternative 4, Sluicing the disturbed areas will, in large, replace the vegetated areas, resulting in a high degree of contrast between existing and sediment removal conditions. While the open character of the site will remain, the overall visual quality of the Proposed Project site will be lower due to the large-scale alteration and decrease of desirable elements.

Excavation and associated activities within the reservoir area are expected to take place during dryer months, from April to December, as weather permits. During the wetter months, temporary changes to the visual characteristics of the Proposed Project site will be slightly less apparent with water storage in the basin. Some regrowth of riparian vegetation will also likely occur during this time. Both these factors will reduce the temporary change in the visual characteristics associated with sediment removal. Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to the visual character of the Proposed Project site.

Although the sediment removal associated with this alternative will result in a potentially significant impact to the visual character of the Proposed Project site, the degree of contrast will be greater in comparison to the Proposed Project due to the extended time frame for sediment removal through sluicing.

Reservoir Management

As with the Proposed Project, construction equipment will also be visible in the basin but only for short periods of time. After completion of the proposed sediment removal activities associated with Alternative 4, Sluicing, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. Reservoir management under this alternative will result in a similar degree of contrast as seen during sediment removal and will result in a potentially significant impact to visual character. The majority of the reservoir will not be allowed to naturally grow and/or remain in place, as the reservoir management area is the entire Configuration A excavation area. As described previously, the area requiring vegetation maintenance will be similar to the reservoir management Option 1 under the Proposed Project. In addition, any contrast associated with this Alternative will be similar in comparison to reservoir management Option 1 under the Proposed Project, due to the similarities in reservoir management area and associated reservoir management activities.

Mitigation Measure

No feasible mitigation measures were identified for sediment removal. No mitigation is necessary for reservoir management. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation, impacts to visual character from sediment removal activities will remain potentially significant.

Reservoir management impacts to visual character will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts on scenic vistas due to the extended time frame for sediment removal through sluicing.

Due to the extended time frame for sediment removal through sluicing, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will also be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities; although views of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

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 4, Sluicing will be consistent with the second through fourth criteria but would potentially not be consistent with the first criterion, as emissions of NO_x could exceed the Daily Regional Threshold during sediment removal from the Arroyo Seco Channel, the Los Angeles River, or the Port of Long Beach. 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. This impact will be increased in comparison to the Proposed Project due to the potentially longer distance of trucking during sediment removal activities from downstream portions of the channel.

As with the Proposed Project, reservoir management for Alternative 4, Sluicing 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 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 combined NO_x emissions from Alternative 4, Sluicing during the sediment removal phase to a level of less than significant.

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 4, Sluicing will be consistent with the first indicator. No significant impact would occur.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to air quality plans due to the likely need for sediment trucking from locations further downstream. Since the sediment will be deposited over a larger area, the sediment removal could potentially require trucks to travel further distances, which will have associated air quality impacts.

Due to the alternate sediment removal method and the need for trucking of sediment from further offsite, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated air quality impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to 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, emissions of NO_x under Alternative 4, Sluicing could exceed the Daily Regional Threshold during the removal of sediment from further downstream, resulting in a potentially significant impact. Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 will result in a reduction of combined NO_x emissions from Alternative 4, Sluicing during sediment removal. Therefore, this impact will be reduced to less than significant. This impact will be increased in comparison to the Proposed Project due to the longer distances required for the trucking sediment offsite.

As with the Proposed Project, reservoir management for Alternative 4, Sluicing will not exceed any standard and will result in less than significant impacts.

Mitigation Measure

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

Residual Impacts After Mitigation

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 from Alternative 4, Sluicing during the sediment removal phase to a level of less than significant.

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

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to air quality standards due to the likely need for sediment trucking from locations further downstream. Since the sediment will be deposited over a larger area, the sediment removal could potentially require trucks to travel further distances, which will have associated air quality impacts.

Due to the alternate sediment removal method and the need for trucking of sediment from further offsite, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated air quality impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

AIR QUALITY-3 *Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Sediment Removal/Reservoir Management

Air Quality Plans

As discussed previously, emissions of NO_x from Alternative 4, Sluicing could exceed the SCAQMD regional significance thresholds during removal of sediment from further downstream. This exceedance will not be consistent with air quality management plans and therefore will result in a significant cumulative impact. This impact will be greater in comparison to the Proposed Project due to the longer distance required to truck sediment to the disposal sites.

Emissions of VOC, NO_x, PM₁₀, and PM_{2.5} are not expected to exceed the SCAQMD regional significance thresholds during reservoir management. The SCAQMD considers construction-related emissions that do not exceed the project-specific thresholds will not result in a cumulative impact.

Cumulative Health Impacts

As with the Proposed Project, for Alternative 4, Sluicing with Mitigation Measures MM AQ-1 and MM AQ-2, a 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. 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.

Mitigation Measures

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

Residual Impacts After Mitigation

Sediment removal will not exceed any localized significance threshold except for combined NO_x emissions. Implementation of these mitigations would reduce combined NO_x emissions from Alternative 4, Sluicing during the sediment removal phase to a level of less than significant.

Reservoir management will not exceed any localized significance threshold; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to cumulative health due to the longer distances for trucking the sediment to the disposal sites.

Due to the longer trucking distances, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated air quality impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

AIR QUALITY-4 *Expose sensitive receptors to substantial pollutant concentrations.*

Sediment Removal/Reservoir Management

Localized Significance Thresholds

As with the Proposed Project, the onsite emissions for Alternative 4, Sluicing for sediment removal and reservoir management activities will not exceed LST thresholds.

Carbon Monoxide Hotspot

As with the Proposed Project, the CO Hotspot analysis for Alternative 4, Sluicing shows no exceedance of the State or federal CO standard, and no significant impact is expected during sediment removal or management.

Carcinogenic Or Toxic Contaminants

As with the Proposed Project, all routes modeled for Alternative 4, Sluicing resulted in less than significant non-cancer risk from diesel emissions created by this Alternative.

Mitigation Measure

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to sensitive receptors due to the likely need for sediment trucking from locations further downstream. Since the sediment will be deposited over a larger area, the sediment removal could potentially require trucks to travel further distances, which will have associated air quality impacts and impacts to sensitive receptors in the area of the trucking.

Due to the alternate sediment removal method and the need for trucking of sediment from further offsite, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 5, Haul Route Alternative. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated air quality impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

AIR QUALITY-5 *Create objectionable odors affecting a substantial number of people.*

Sediment Removal/Reservoir Management

The CEQA Guidelines indicate that a potentially significant impact would occur if the Proposed Project would create objectionable odors affecting a substantial number of people.

As with the Proposed Project, diesel exhaust by Alternative 4, Sluicing will be emitted from equipment during the sediment removal process. Diesel exhaust is an objectionable odor to some; however, concentrations will disperse rapidly from the Project site (OB-1 2013).

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 4, Sluicing may produce objectionable odors beyond the Proposed Project site under sediment removal or reservoir management; however, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project with respect to impacts from objectionable odors.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to all the other alternatives except for Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

BIOLOGICAL RESOURCES

BIOLOGY-1 *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.*

Sediment Removal

Potential impacts to vegetation communities will be identical to the Proposed Project due to the identical sediment removal and reservoir management areas, as shown in Figure 4.7-1.

Sensitive Plants

No listed or otherwise sensitive plant species were observed on the Proposed Project site. Therefore, as with the Proposed Project, Alternative 4, Sluicing is not expected to have a substantial adverse effect on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Sensitive Wildlife

The Proposed Project site contains habitat and/or potential habitat for five special status species: least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake. Least Bell's vireo, yellow warbler, coast range newt, and two-striped garter snake have all been observed on the Proposed Project site. The southwestern pond turtle has not been observed on the Proposed Project site. If it did occur, habitat for this species would be largely limited to ponded areas.

Alternative 4, Sluicing will disturb the same amount of acreage within the Proposed Project site as will be disturbed under the Proposed Project. Potential impacts to sensitive wildlife will be the same as the Proposed Project due to the same amount of habitat disturbed during sediment removal activities.

Habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake occurs within streams and seasonal ponds found on the Proposed Project site. The amount of this habitat that will be available will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Under Alternative 4, Sluicing, disturbance of habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake is expected to be the same as the Proposed Project due to the same reservoir configuration and expected habitat disturbance during sediment removal activities.

Direct harm or take of these species during sediment removal activities would result in a potentially significant impact. The chance of this occurring during sediment removal activities under this alternative

is expected to be the same as the Proposed Project due to the identical excavation area. To ensure no harm or take of these special status species, Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3, listed below, have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During sediment removal, tree and vegetation removal has the potential to significantly affect nesting birds and roosting bats if active nests or roosting bats are present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. With implementation of Mitigation Measure MM BIO-4 and MM BIO-5, listed below, impacts to nesting birds and roosting bats will be less than significant.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated impacts to biological resources.

Reservoir Management

As shown in Figure 4.7-1, Alternative 4, Sluicing will result in a similar diversity of vegetation communities as the Proposed Project, since the reservoir management area is identical to the Proposed Project.

The availability of streams and seasonal ponds will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Special status species have the potential to use the reservoir management area.

Direct harm or take of these species during reservoir management activities will result in a potentially significant impact. The chance of this occurring during reservoir management activities under this alternative is expected to be the same as the Proposed Project's reservoir management Option 1. To ensure no harm or take of these special status species occurs, MM BIO-1, MM BIO-2, and MM BIO-3 have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During reservoir management, tree and vegetation removal will significantly affect nesting birds and roosting bats, if present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. This impact will be similar under Alternative 4, Sluicing, as similar amounts of vegetation will be removed in comparison to the Proposed Project. With implementation of Mitigation Measure MMBIO-4 and MM BIO-5, impacts to nesting birds and roosting bats will be less than significant.

Mitigation Measures

MM BIO – 1: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide protection 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 the 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.

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.

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 CNDDDB field data sheet and submitted to CDFW for inclusion into the CNDDDB.

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. Prior to commencement of sediment removal activities within bird breeding season (March 1 through 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.

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., sound barriers) 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 it 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.

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 determined that roosting bats may still be present, trees shall be removed as follows:
 - Pushing the 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

Alternative 4, Sluicing will result in a less than significant impact on the biological resources on the Proposed Project site; however, potentially significant impacts to downstream resources may remain significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to candidate, sensitive, or special status species due to the potential downstream impacts associated with sluicing.

Alternative 4, Sluicing will also be environmentally inferior to Alternative 5, Haul Route Alternative.

Due to the larger sediment removal and reservoir management areas, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated impacts to biological resources.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities; although 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 4, Sluicing 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.

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 4, Sluicing will impact the same acreage of water features as the Proposed Project. To minimize impacts, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below significance.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated impacts to biological resources. The sediment deposits could also impact riparian habitat and other sensitive natural communities downstream of the Proposed Project site. Impacts could be potentially significant.

Mitigation Measures

MM BIO – 6: Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. Areas shall be mapped using aerial photographs.

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 trees that will be removed or potentially affected by the Proposed Project and trees that can be avoided. LACFCD will replace trees that cannot be

avoided. The replacement is expected to be up to 1:1 by 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.

MM BIO – 8: A combination of onsite and offsite habitat restoration, enhancement, and exotic removal shall be implemented by LACFCD at a 1:1 ratio for impacted sensitive habitat and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. This mitigation measure shall be monitored for success for five years following implementation. A report of the monitoring results shall be submitted annually, during the five years following implementation, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement.

Residual Impacts after Mitigation

Alternative 4, Sluicing will result in a less than significant impact on the biological resources on the Proposed Project site; however, potentially significant impacts to downstream resources may remain significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to riparian habitat and other sensitive natural communities due to the potential downstream impacts associated with sluicing.

Alternative 4, Sluicing is also considered environmentally inferior to Alternative 5, Haul Route Alternative with respect to impacts to riparian habitat and other sensitive natural communities due to potential downstream impacts associated with sluicing.

Due to the larger size of sediment removal and reservoir management areas and decreased opportunities for restoration and/or enhancement, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated impacts to biological resources.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities; although 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 4, Sluicing will impact the same acreage of water features impacts as the Proposed Project. To minimize impacts, Mitigation Measure MM BIO-8 has been provided.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated impacts to biological resources. The sediment deposits could also impact wetlands downstream of the Proposed Project site. Impacts could be potentially significant.

Mitigation Measures

See Mitigation Measure MM BIO-8 above.

Residual Impacts After Mitigation

Alternative 4, Sluicing will result in a less than significant impact on the biological resources on the Proposed Project site; however, potentially significant impacts to downstream resources may remain significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts on federally protected wetlands due to the potential for downstream impacts associated with sluicing. The Proposed Project 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 in downstream wetlands and other sensitive habitats associated with removal activities.

Alternative 4, Sluicing is also considered environmentally inferior to Alternative 5, Haul Route Alternative with respect to impacts on federally protected wetlands due to potential downstream impacts associated with sluicing.

Due to the larger size of the areas of sediment removal and reservoir management and decreased opportunities for restoration and/or enhancement, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have impacts to biological resources associated with removal activities.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities; although 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 4, Sluicing will 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. To minimize impacts to less than significant, Mitigation Measures MM BIO-1 through MM BIO-8 has been provided. 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.

Additionally, if proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have associated impacts to biological resources. The sediment deposits could also impact wildlife movement downstream of the Proposed Project site. Impacts could be potentially significant.

Mitigation Measures

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

Residual Impacts After Mitigation

Alternative 4, Sluicing will result in a less than significant impact on the biological resources on the Proposed Project site; however, potentially significant impacts to downstream resources may remain significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to wildlife movement and habitat connectivity due to the potential downstream impacts associated with sluicing.

Alternative 4, Sluicing is also considered environmentally inferior to Alternative 5, Haul Route Alternative with respect to impacts to wildlife movement and habitat connectivity due to the potential downstream impacts associated with sluicing.

Due to the larger size of the areas of sediment removal and reservoir management and lack of opportunities for restoration and/or enhancement, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have impacts to biological resources associated with removal activities.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities; although 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 4, Sluicing will result in the removal of native trees from the Proposed Project site. This impact will be the same as for the Proposed Project, as the same amount of vegetation and trees will be removed. Implementation of Mitigation Measure MM BIO-7 will reduce impacts to city-protected trees to a level below significance.

If proper sediment transport does not occur under Alternative 4, Sluicing, however, sediment deposits will 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, which will have associated impacts to biological resources. The sediment deposits could also impact trees downstream of the Proposed Project site. Impacts could be potentially significant.

Mitigation Measures

See Mitigation Measure MM BIO-7.

Residual Impacts After Mitigation

Alternative 4, Sluicing will result in a less than significant impact to city-protected trees.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to loss of native trees due to the potential downstream impacts associated with sluicing.

Alternative 4, Sluicing is also considered environmentally inferior to Alternative 5, Haul Route Alternative with respect to impacts to loss of native trees due to the potential downstream impacts associated with sluicing.

Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D due to the potential downstream impacts associated with sluicing.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative; although trees in the reservoir will likely be lost under Alternative 6, No Project Alternative due to continuous sediment deposition.

CULTURAL RESOURCES

CULTURAL-1 *Cause a substantial adverse change in the significance of a historical resource.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no alterations or modifications will be made to any historic resource; and therefore, no significant impact to historical resources is anticipated with this alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No historic resources are within the Proposed Project site; therefore Alternative 4, Sluicing will not result in impacts to historic resources.

Comparison to Proposed Project and Other Alternatives

As no historic resources are within the Proposed Project site, Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project with respect to historic resources.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives.

CULTURAL-2 *Cause a substantial adverse change in the significance of an archaeological resource.*

Sediment Removal/Reservoir Management

Alternative 4, Sluicing will involve ground-disturbing activities under sediment removal and reservoir management; however, as noted in Section 3.5, most of the soil in the Proposed Project area consists of recently accumulated sediment. In areas filled with recently accumulated sediment, archeological sites are not anticipated to exist, although it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified archeological sites have potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-1 will

reduce potential impacts to less than significant. This impact will also be similar in comparison to the Proposed Project due to the similarities in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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 archaeological materials are observed, the excavation in the proximity of the discovery will be diverted until a qualified archaeologist evaluates the discovery.

Residual Impacts After Mitigation

While it is always possible that unidentified archaeological sites exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-1, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project with respect to archaeological resources due to the similarities in sediment removal and reservoir management areas.

Alternative 4, Sluicing is also considered neither environmentally superior nor inferior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative with respect to archaeological resources.

Due to the larger sediment removal and reservoir management areas, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

CULTURAL-3 *Cause a substantial adverse change in the significance of a paleontological resource.*

Sediment Removal/Reservoir Management

No paleontological resources were encountered during the course of the survey and are not expected in the accumulated sediment. It is always possible that unidentified paleontological materials exist in native soil below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified paleontological materials have the potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-2 will reduce impacts to less than significant. This impact will also be similar in comparison to the Proposed Project due to the similarities in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is always possible that unidentified paleontological materials exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-2, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project with respect to paleontological resources due to the similarities in sediment removal and reservoir management areas.

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative with respect to paleontological resources.

Due to the larger sediment removal and reservoir management areas, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

CULTURAL-4 *Potentially impact unknown human remains within the proposed project site.*

Sediment Removal/Reservoir Management

As with the Proposed Project, archival research and the archaeological survey in connection with the present project did not indicate the presence of any known human remains in the project area. In the event human remains are discovered, implementation of Mitigation Measure MM CUL-3 will reduce impacts to less than significant.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is possible that human remains could be discovered in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-3, no significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project with respect to accidental discovery of human remains due to the similarities in sediment removal and reservoir management areas.

Alternative 4, Sluicing is also considered neither environmentally superior nor inferior to Alternative 2, Configuration C and Alternative 5, Haul Route Alternative with respect to accidental discovery of human remains.

Due to the larger sediment removal and reservoir management areas, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B and Alternative 3, Configuration D.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

GEOLOGY & SOILS

GEOLOGY-1 *Potentially result in soil erosion or loss of topsoil during sediment removal activities.*

Sediment Removal/Reservoir Management

Alternative 4, Sluicing will involve the removal of sediment from the reservoir through sluicing. Sediment stockpiled at Johnson Field as part of the IMP will also be sluiced. If drying is required, stockpiling of the sediment will occur onsite within Devil's Gate Reservoir. Through sluicing, sediment will be moved downstream to the Arroyo Seco. Sluicing will initially transport heavier and greater amounts of sediments downstream; however, as described in the sediment transport study (Appendix K), the sediment transport during historically typical flows and standard dam operations was found to be incapable of flushing excess sediment down the length of the Arroyo Seco Channel. After approximately 9.5 months of sluicing under historically typical flows, followed by an additional 6 months of historically typical sediment flushing flows, approximately 20,000 cy of sediment will be conveyed to the Los Angeles River, leaving approximately 243,000 cy of sediment in the Arroyo Seco Channel, with deposits primarily occurring in and around the natural reaches. As demonstrated, it is likely that sediment loads will fall out rapidly after leaving Devil's Gate Reservoir. This sediment would eventually need to be removed from the Arroyo Seco. Any effort undertaken to remove this sediment would reduce impacts associated with erosion to less than significant through implementation of SCAQMD Rule 403 and BMPs; however, disturbed sediments are more susceptible to erosion. Depending on where fallout occurs and the time frame for developing a downstream sediment removal plan, these sediment deposits may be vulnerable to wind erosion. This impact will be greater in comparison to the Proposed Project due to movement of sediment downstream and the potential erosion impacts to the areas downstream of the Proposed Project site.

Mitigation Measures

No mitigation measures will be required.

Residual Impacts After Mitigation

With implementation of SCAQMD Rule 403 and BMPs and the resulting reduction in potential for erosion, no significant impacts to geology and soils would occur as a result of Alternative 4, Sluicing.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to soil erosion due to the potential impacts on erosion downstream.

Due to the potential downstream impacts associated with sluicing, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

GREENHOUSE GAS EMISSIONS

GHG EMISSIONS-1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Sediment Removal/Reservoir Management

Alternative 4, Sluicing will use the same amount and type of construction equipment as the Proposed Project; however, sediment removal under this Alternative will not involve trucking of sediment offsite. The only material to be trucked offsite includes vegetation, which will be transported to Scholl Canyon Landfill. Use of sediment removal dump trucks that meet EPA's emission standards for Model Year 2007 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 4, Sluicing will have the same amount of daily equipment usage but less truck traffic; therefore, this alternative will generate less greenhouse gas emissions than the Proposed Project, which will not be "cumulatively considerable," and is therefore less than significant under CEQA.

As with the Proposed Project, Alternative 4, Sluicing may prove a positive effect on climate change. High ambient temperatures coupled with important demand for oxygen due to the degradation of substantial amounts of organic matter favor the production of CO₂, the establishment of anoxic conditions, and thus the production of CH₄. If the reservoir is left as it is, the large quantity of biomass currently existing may exacerbate the condition. With the removal and disposal of most of the organic mass in the Scholl Canyon Landfill, which uses the green waste primarily as "alternative daily cover" (ADC), the overall benefit to the carbon ecosystem will be positive, since prior to using green waste for ADC, larger amounts of cover soil had to be imported into the landfill from offsite sources (Kong et al. 2008). Therefore, use of the green waste as ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. This potential benefit will be the same as the Proposed Project due to the same area of vegetation removal.

If proper sediment transport does not occur under Alternative 4, Sluicing, however, sediment deposits will 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, which will have associated impacts to greenhouse gas emissions. Although additional downstream sediment removal could occur, as with the Proposed Project, impacts from generation of greenhouse gas emissions would likely not be “cumulatively considerable” and would therefore likely be less than significant under CEQA.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with the generation of greenhouse gas emissions will occur as a result of Alternative 4, Sluicing.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing will potentially generate more overall greenhouse gas emissions than the Proposed Project and therefore is considered environmentally inferior to the Proposed Project due to overall production of greenhouse gas emissions.

Due to overall production of greenhouse gas emissions, Alternative 4, Sluicing will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative. 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 associated with overall production of greenhouse gas emissions.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities and associated production of greenhouse gas emissions.

GHG EMISSIONS-2 *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Sediment Removal/Reservoir Management

AB 32 identified a 2020 target level for GHG emissions in California of 427 MMT of CO₂e, which is approximately 28.5 percent less than the year 2020 BAU emissions estimate of 596 MMT CO₂e. To achieve these GHG reductions, widespread reductions of GHG emissions will have to occur across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. These reductions in mobile-sources and energy production of GHG emissions would occur with or without development of Alternative 4, Sluicing. Overall, Alternative 4, Sluicing will be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. Currently, no other GHG reduction plan (i.e., SCAG, SCAQMD, or County) applies to Alternative 4, Sluicing. As with the Proposed Project, Alternative 4, Sluicing will not conflict with any applicable plan, policy, or regulation of

an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will occur as a result of Alternative 4, Sluicing.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project with respect to applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS AND HAZARDOUS MATERIALS

HAZARDS-1 *Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 4, Sluicing will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

HAZARDS-2 *Create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials into the environment.*

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 4, Sluicing will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-3 *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 4, Sluicing will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. The proposed construction routes pass La Cañada High School and Hillside School and Learning Center. Adherence to County, State, and federal agency regulations governing the use of these materials reduces the potential for impacts to a less than significant level and will not pose a safety hazard to sensitive receptors. No mitigation measures are required.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials within one-quarter mile of an existing school to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally superior to the Proposed Project due to the reduction in truck traffic.

Due to the reduction in truck traffic, Alternative 4, Sluicing will also be environmentally superior to all the other alternatives except Alternative 5, Haul Route Alternative and Alternative 6, No Project Alternative.

Alternative 4, Sluicing will be environmentally inferior to Alternative 5, Haul Route Alternative, as the Alternative 4, Sluicing haul truck routes pass La Cañada High School and Hillside School and Learning Center during vegetation removal to Scholl Canyon Landfill.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

HAZARDS-4 *Located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.*

Sediment Removal/Reservoir Management

EPA included Hahamongna Watershed Park area on the NPL Superfund List due to the presence of detected VOCs and perchlorate in groundwater originating from the JPL property. The impacted groundwater is at 200 feet bgs; and, as with the Proposed Project, the concentrations of organochlorine pesticides, petroleum hydrocarbons (diesel and hydraulic/motor oil range and aromatics), and SVOCs detected in samples collected from Devil's Gate Reservoir are below regulatory thresholds. Therefore, the listing of the watershed on the Superfund List does not present a significant hazard to the public or the environment, and no significant impacts associated with the Alternative 4, Sluicing are expected.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS-5 *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Sediment Removal/Reservoir Management

Alternative 4, Sluicing sediment removal and reservoir management activities will occur onsite and will not interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies. Additionally, access to the surrounding roads will be maintained during sediment removal and reservoir management activities and will not interfere with the response facilities located adjacent to the Proposed Project site, including the County of Los Angeles Fire Department Camp 2 and the City of Pasadena Police Department located at 2175 Yucca Lane. Alternative 4, Sluicing will also increase flood control protection downstream of Devil's Gate Dam. No mitigation measures are required.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative.

Alternative 4, Sluicing will be environmentally superior to Alternative 6, No Project Alternative, as Alternative 6, No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam. This flooding could also potentially interfere with access to roadways.

HYDROLOGY & WATER QUALITY

HYDROLOGY-1 *Violate any water quality standards or waste discharge requirements.*

Sediment Removal/Reservoir Management

This Alternative uses sluicing to transport sediment downstream. Sluicing differs from FAST operations in the amount and weight of sediment transported. FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. FAST operations will take place using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. The sediment fines discharged during historic FAST

operations are transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows.

Sluicing will initially transport heavier and greater amounts of sediments downstream. Potentially significant impacts to water quality could occur from the increase in sediment load into the active stream channel.

As described in the sediment transport study (Appendix K), the sediment transport during historically typical flows and standard dam operations was found to be incapable of flushing excess sediment down the length of the Arroyo Seco Channel. After approximately 9.5 months of sluicing under historically typical flows, followed by an additional 6 months of historically typical sediment flushing flows, approximately 20,000 cy of sediment will be conveyed to the Los Angeles River, leaving approximately 243,000 cy of sediment in the Arroyo Seco Channel, with deposits primarily occurring in and around the natural reaches. As demonstrated, it is likely that sediment loads will fall out rapidly after leaving Devil's Gate Reservoir, limiting the area impacted by heavy sediment-loaded storm flows. This sediment would eventually need to be removed from the Arroyo Seco.

Heavy equipment needed for sediment agitation has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 4, Sluicing activities involving construction equipment will involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level. With adherence to regulations and permit requirements and implementation of project-specific BMPs, impacts related to otherwise substantially degrading water quality will be less than significant.

If proper sediment transport does not occur under Alternative 4, Sluicing, however, sediment deposits will 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, which will have associated impacts to water quality. Adequate BMPs will be utilized during downstream removal; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level. With adherence to regulations and permit requirements and implementation of project-specific BMPs, impacts related to otherwise substantially degrading water quality will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality associated with construction equipment to a less than significant level.

Proper sediment transport is not likely to occur under Alternative 4, Sluicing; and sediment deposits are expected to develop along the route to the ocean, requiring sediment removal from the Arroyo Seco Channel.

Comparison to Proposed Project and Other Alternatives

Due to increases in sediment load, Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project.

Alternative 4, Sluicing will also be environmentally inferior to all the other alternatives.

HYDROLOGY-2 *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.*

Sediment Removal/Reservoir Management

As with the Proposed Project, with implementation of Alternative 4, Sluicing the reservoir will have the ability to contain more of the local runoff, which in turn will result in more stormwater penetrating surface sediment in the project area and subsequently recharging the groundwater basin. No significant impacts to groundwater supplies are expected. Alternative 4, Sluicing, however, would require an extended time frame to achieve this capacity. In addition, water stored in the reservoir would be used for the sluicing activities, reducing the available amount for future recharge efforts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant unavoidable adverse impacts would occur as a result of Alternative 4, Sluicing.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project due to the same amount of area to contain local runoff.

Alternative 4, Sluicing will be environmentally superior to all of the other alternatives except Alternative 2, Configuration C and Alternative 5, Haul Route Alternative. Alternative 4, Sluicing will be environmentally inferior to Alternative 2, Configuration C due to a larger area to contain local runoff. Alternative 4, Sluicing will be neither environmentally superior nor inferior to Alternative 5, Haul Route Alternative, due to same amount of area to contain local runoff.

HYDROLOGY-3 *Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation.*

Sediment Removal/Reservoir Management

Drainage patterns within the reservoir change on a regular basis depending on seasonal conditions, water flow, and sediment deposition. Sediment removal and reservoir management will also result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Excavation, grading, and sediment placement activities will occur under LACDPW regulations, which establish protocols for proper design of slopes and temporary sediment-collecting structures.

Sluicing will initially transport great amounts of sediments downstream. This would temporarily increase the turbidity of the water, however. As described in the sediment transport study (Appendix K), the sediment transport during historically typical flows and standard dam operations was found to be incapable of flushing excess sediment down the length of the Arroyo Seco Channel. After approximately 9.5 months of sluicing under historically typical flows, followed by an additional 6 months of historically typical sediment flushing flows, approximately 20,000 cy of sediment will be conveyed to the Los Angeles River, leaving approximately 243,000 cy of sediment in the Arroyo Seco Channel, with deposits primarily occurring in and around the natural reaches. Due to the rapid fallout, any impacts to water quality due to turbidity are expected to be adverse but less than significant; however, the deposition downstream may require the removal of sediment from the Arroyo Seco.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Proper sediment transport is not likely to occur under Alternative 4, Sluicing; and sediment deposits are expected to develop along the route to the ocean, requiring sediment removal from the Arroyo Seco Channel.

Comparison to Proposed Project and Other Alternatives

Due to increases in turbidity and sediment deposition, Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project.

Alternative 4, Sluicing will also be environmentally inferior to the other alternatives.

HYDROLOGY-4 *Otherwise substantially degrade water quality.*

Sediment Removal/Reservoir Management

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 4, Sluicing activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

LAND USE & PLANNING

LAND USE-1 *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Sediment Removal

As with the Proposed Project, Alternative 4, Sluicing will not conflict with the City's General Plan or zoning designation of Open Space for the Proposed Project site and is consistent with the LACFCD easement.

As discussed in Subsection 3.8.3, Applicable Regulations, the HWPMP emphasizes protection of recreational and natural resources as well as the management of flood control for the downstream watershed. Alternative 4, Sluicing is consistent with HWPMP Goal 2 of managing the flood control basin for protection of the downstream areas by improving and maintaining the flood capacity behind Devil's Gate Dam.

Implementation of sediment removal and reservoir management will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities (see further discussion below in Recreation). With implementation of Mitigation Measure MM LAN-1, impacts associated with recreational activities coexisting with flood management and water conservation will be reduced to less than significant.

Mitigation Measure

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.

Residual Impacts After Mitigation

Impacts associated with recreational activities coexisting with flood management and water conservation would be reduced to less than significant for sediment removal and reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts to land use associated with compatibility to recreation due to the extended time frame for sediment removal through sluicing.

Due to the greater amount of sediment removal and reservoir management areas, Alternative 4, Sluicing will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, although recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

MINERAL RESOURCES

MINERALS-1 *Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.*

Sediment Removal/Reservoir Management

The Proposed Project site contains areas delineated within SMARA zone designated MRZ-2, which indicates that the area contains adequate information to indicate that significant mineral deposits are present or are judged to have a high likelihood for their presence (City of Pasadena 2002). As with the Proposed Project, under Alternative 4, Sluicing the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment removal is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 4, Sluicing will not result in any potentially significant impacts to mineral resources that will be of value to the region and residents of the state.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing will also be neither environmentally superior nor inferior to any of the other alternatives.

MINERALS-2 *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

While the Arroyo Seco Master Plan EIR (2002) states that the reservoir may contain large quantities of arroyo stone, the Proposed Project site is not delineated as a locally important mineral resource recovery site on a local general plan, specific plan, or other local land use plan. As with the Proposed Project, under Alternative 4, Sluicing, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment excavation is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 4, Sluicing will not result in any potentially significant impacts to availability of a locally important mineral resource recovery site.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to any other alternative.

NOISE & VIBRATION

NOISE-1 *Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Sediment Removal/Reservoir Management

Onsite Construction Equipment Noise

Alternative 4, Sluicing sediment removal activities will take place Monday through Friday to between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday. This alternative will use the same amount and type of construction equipment as the Proposed Project. Since the removal of sediment activities will require a greater amount of equipment than the reservoir management activities,

calculations for onsite construction equipment noise have been based on the sediment removal activities equipment list.

Noise impacts from onsite construction equipment activities associated with Alternative 4, Sluicing will be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. Construction noise impacts will be the same as those associated with the Proposed Project to the nearby sensitive receptors and are shown below in Table 4.7-1.

Table 4.7-1: Alternative 4 Onsite Construction Equipment Noise Levels at Nearby Sensitive Receptors

Receptor Description	Receptor Jurisdiction	Distance to Receptor (feet)	Construction Noise Levels ¹	
			dBA Leq	dBA L _{max}
Single-Family Home	Pasadena	140	71	73
Single-Family Home	Los Angeles County	180	69	71
JPL Office	La Cañada Flintridge	200	68	70
Hahamongna Watershed Park	Pasadena	20	86	90
La Cañada High School	La Cañada Flintridge	430	63	63
La Cañada Methodist Church	La Cañada Flintridge	500	62	62

Notes:

¹ L_{max} is based on the maximum noise from the loudest piece of equipment and the Leq is the average noise from all equipment.

Source: RCNM, Federal Highway Administration, 2006

Table 4.7-1, above, shows that construction noise impacts will range from 62 dBA Leq to 86 dBA Leq at the nearby receptors, with the highest noise levels occurring at the portion of Hahamongna Watershed Park that is adjacent to the west side of the reservoir.

The City of Pasadena exempts public agencies from the Municipal Code noise requirements. The County of Los Angeles exempts flood control maintenance and construction operations from noise restrictions. The City of La Cañada Flintridge does not provide maximum noise thresholds of construction noise that occurs during the allowed times between Monday through Friday of 7:00 a.m. to 6:00 p.m. Standard Time and 7:00 a.m. to 7:00 p.m. Daylight Savings Time and on Saturday between 7:00 a.m. and 5:00 p.m. Therefore, Alternative 4, Sluicing will comply with all local ordinances due to sediment removal and reservoir management activities taking place during the allowed hours.

Offsite Vehicular Noise

Alternative 4, Sluicing sediment removal and reservoir management activities will generate fewer daily haul truck trips than the Proposed Project, as only vegetation will be trucked offsite. Therefore, potential impacts to offsite traffic noise created by the offsite vehicle trips under Alternative 4, Sluicing will be less than those generated from the Proposed Project.

If proper sediment transport does not occur under Alternative 4, Sluicing, however, sediment deposits will 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, which will have associated impacts to offsite vehicular noise. This temporary noise level increase created from offsite vehicular noise impacts will result in a less than significant impact.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 4, Sluicing will comply with all local noise ordinances, and roadway noise impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts associated with noise levels. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will develop along the route to the ocean. This would result in sediment deposition and impacts downstream associated with removal activities.

Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will develop along the route to the ocean. This would result in sediment deposition and impacts downstream associated with removal activities.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-2 *Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Sediment Removal/Reservoir Management

As with the Proposed Project, only the nearby single-family homes in the City of Pasadena would experience vibration levels that would exceed the 0.01-inch-per-second vibration standard. This potentially significant impact will be reduced to less than significant through implementation of Mitigation Measure MM N-1. In addition, this impact will be greater in comparison to the Proposed Project, as sediment removal under this alternative is expected to have a longer duration.

Mitigation Measures

MM N-1: 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.

Residual Impacts After Mitigation

Through implementation of Mitigation Measure MM N-1, the onsite construction equipment vibration impacts to nearby sensitive receptors would be reduced to less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts associated with vibration levels due to the extended time frame for sediment removal through sluicing.

Due to the impacts associated with sediment removal downstream, Alternative 4, Sluicing will also be environmentally inferior to all other alternatives including Alternative 6, No Project Alternative.

NOISE-3 *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Sediment Removal/Reservoir Management

Alternative 4, Sluicing, will not create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing noise levels. For this analysis, both the sediment removal activities and reservoir management activities have been considered as temporary activities, since they would occur only for limited durations of time. The construction activities associated with the removal of the sediment may create temporary onsite noise impacts from the operation of construction equipment as well offsite noise impacts from the use of haul trucks to export vegetation offsite.

Onsite Construction Equipment Noise

As with the Proposed Project, the onsite equipment that will be operated under Alternative 4, Sluicing will not conflict with any construction noise standards. Any temporary noise level increase from onsite construction noise will be less than significant. Therefore, potential impacts to noise levels caused by onsite construction from Alternative 4, Sluicing will be the same as those generated from the Proposed Project; however, due to the longer time frame for removing the material the impact will be greater.

Offsite Vehicular Noise

As with the Proposed Project, roadway noise impacts from offsite vehicular trips associated with Alternative 4, Sluicing for locations that do not already exceed the standards for existing conditions would be less than significant. The analysis also found that for the locations that currently exceed the normally acceptable noise standard, noise contribution by Alternative 4, Sluicing to these roadway segments will be within the Federal Transit Administration's allowable noise exposure increase levels. Therefore, the impacts from temporary noise level increase created from offsite vehicular noise will result in a less than significant impact. Potential offsite vehicular noise from Alternative 4, Sluicing will be less than that generated from the Proposed Project due to the lesser number of trucks moving material offsite.

If proper sediment transport does not occur under Alternative 4, Sluicing, however, sediment deposits will 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, which will have associated impacts to offsite vehicular noise. This temporary noise level increase created from offsite vehicular noise impacts will result in a less than significant impact.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Temporary noise level increase from onsite construction noise and offsite vehicular noise would be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to impacts associated with noise levels. If proper sediment transport does not occur under Alternative 4, Sluicing and sediment deposits will develop along the route to the ocean. This would result in sediment deposition and associated removal activities impacts downstream. Although less trucking would occur onsite, other sensitive receptors would potentially be impacted by the associated trucking of sediment.

Due to the impacts associated with sediment removal downstream, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative. If proper sediment transport does not occur under Alternative 4, Sluicing and sediment deposits develop along the route to the ocean, this would result in need for sediment removal and impacts downstream associated with removal activities.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

RECREATION/PUBLIC SERVICES

RECREATION-1 *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Alternative 4, Sluicing will not result in the construction of new residences, or facilitate the development of residences, or result in an increase in area population. Therefore, implementation of Alternative 4, Sluicing will not result in increased use or the physical deterioration associated with increased use for neighborhood or regional parks or other recreational facilities due to any increases in area population.

Sediment Removal Impacts

Unlike the Proposed Project, sediment removal under Alternative 4, Sluicing will occur over the course of multiple decades. During this time, most of the Proposed Project site will be closed to public use from the dam face to the edge of this Alternative's excavation limit boundaries (see Figure 4.7-1). Alternative 4, Sluicing will have a potential impact on recreational opportunities through temporarily restricted access to trails and long-term alteration of the landscape. Maintenance roads within the basin are used by the LACFCD, Southern California Edison (SCE), and the City of Pasadena, among others, for operations and maintenance of Devil's Gate Reservoir and other facilities in the area. The majority of the maintenance roads will be closed during sediment removal; however, these roads are not officially

designated for recreational uses and are often not available for unofficial recreation use due to reservoir water levels or maintenance activities.

Designated Recreational Uses

Implementation of sediment removal will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities. These impacts may increase the use of other area parks and recreational facilities such as those described in Table 3.15-1: Area Recreational Facilities.

The Oak Grove area of Hahamongna Watershed Park and the associated facilities, including Oak Grove Disk Golf Course, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Sediment removal activities will not limit the use of the Oak Grove area of Hahamongna Watershed Park by individuals or by organizations such as the Oak Grove Disc Golf Club, the Rose Bowl Riders, MACH 1, or the Tom Sawyer Camp.

Activities such as hiking, biking, horseback riding, bird watching, and nature walks will be limited to trails located outside the excavation boundary or to trails opened in absence of removal activities. Of the six designated trails in and adjacent to the Proposed Project site, three of these trails, Flint Wash Trail, Gabrielino Trail, and Gould Canyon Trail, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Small portions of the Altadena Crest Trail, Arroyo Seco Trail, and West Rim Trail will either be closed when sediment removal activities are under way and/or are near the trail.

Sediment removal activities associated with this alternative will not limit or block access to the Oak Grove area and many of the designated trails and will not result in direct potentially significant impacts to these facilities; however, use of these facilities may be less desirable due to construction-related emissions, noise, dust, visual, and traffic impacts associated with sediment removal. These temporary, indirect impacts will reduce the quality of the recreational experience.

Indirect impacts to recreation associated with sediment removal under Alternative 4, Sluicing will be greater in comparison to the Proposed Project due to longer time frame for sediment removal activities.

Recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities. Due to the number of other recreational facilities and trails in the vicinity, it is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 4, Sluicing will not increase use of other existing parks or recreation facilities such that substantial physical deterioration of these facilities will occur or be accelerated. Impacts to other existing parks and recreation facilities will be temporary and less than significant. Sediment removal under this Alternative could potentially have a longer duration than the Proposed Project due to the alternate sediment removal method. This longer duration could further increase the temporary and less than significant impacts to other existing parks and recreation facilities.

Reservoir Management Impacts

After the annual proposed reservoir management, access to Devil's Gate Reservoir will be similar to existing conditions. Every year the reservoir will be temporarily closed to public access for reservoir

management. This will occur during the late summer/early fall over an estimated five-week period, Monday through Friday. The length of time will vary depending on the amount of sediment deposited in the reservoir over the course of the year. The Oak Grove area of Hahamongna Park and most of the designated trails will remain open during reservoir management activities and will continue to provide active recreational facilities to the area. The proposed reservoir management activities will typically occur only during the weekdays; therefore, weekend visitors of the Hahamongna Watershed Park will not be affected by the proposed reservoir management activities. Trails will be beneficially affected in the long-term through the reduction of potential disruption by flooding and/or being buried under sediment. Impacts to existing parks and recreation facilities associated with Alternative 4, Sluicing reservoir management activities will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 4, Sluicing will not result in any potentially significant impacts associated with increased use of other existing parks or recreation facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project with respect to recreation uses due to the longer timeframe for sediment removal activities.

Due to the longer duration of sediment removal activities, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities, although recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

RECREATION-2 *Require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment.*

As discussed in detail above under RECREATION-1, recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities during reservoir management activities. It is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 4, Sluicing will not require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment, resulting in a less than significant impact. Sediment removal under this Alternative could potentially have a longer duration than the Proposed Project, due to the alternate sediment removal method. This longer duration could increase the temporary and less than significant impacts to other existing parks and recreation facilities.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 4, Sluicing will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project due to the longer timeframe for sediment removal activities.

Due to the longer timeframe for sediment removal activities, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities, although recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

PUBLIC SERVICES-1 *Result in substantial adverse impacts associated with the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.*

As discussed in detail above under RECREATION-2, Alternative 4, Sluicing will not result in a substantial increase in use of any one park or facility. Therefore, Alternative 4, Sluicing will not require the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 4, Sluicing will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project due to the longer timeframe for sediment removal activities.

Due to the longer timeframe for sediment removal activities, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; Alternative 3, Configuration D; and Alternative 5, Haul Route Alternative.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities, although recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

TRANSPORTATION & TRAFFIC

TRANSPORTATION-1 *Conflict with an applicable plan, ordinance, or policy establishing measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Sediment Removal

Truck traffic associated with the Alternative 4, Sluicing is expected to adhere to traffic regulations. Potential impacts regarding existing LOS are discussed under TRANSPORTATION-2 below. This increase in traffic would result in temporary significant impacts to the efficiency of the circulation system. Implementation of Mitigation Measures MM TRA-1 and TRA-2 would reduce this impact but not to a level of less than significant.

Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant.

Reservoir Management

Truck traffic associated with reservoir management is not expected to adversely affect traffic LOS on the existing roadway network. Therefore, impacts to the efficiency of the circulation system would be less than significant.

Mitigation Measures

MM TRA-1: Proposed Project haul trucks will not deliver to the Vulcan Material Reliance Facility during the PM peak period.

MM TRA-2: Proposed Project haul trucks will not deliver to the Boulevard Pit during the PM peak period.

Residual Impacts after Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce impacts to traffic and circulation but not to a level of less than significant. Other

potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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 transportation associated with removal activities.

Due to the impacts associated with downstream sediment removal, Alternative 4, Sluicing will be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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 transportation from associated with removal activities.

Alternative 4, Sluicing will be environmentally inferior to Alternative 5, Haul Route Alternative as Alternative 4, Sluicing will result in greater significant intersection impacts due to the associated impacts of downstream sediment removal.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

TRANSPORTATION-2 *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Initially truck traffic under this Alternative would have a shorter duration than the Proposed Project, as only vegetation would be trucked offsite and transported to Scholl Canyon Landfill; however, if proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have impacts associated with transportation and traffic. It is likely that sediment loads will fall out rapidly after leaving Devil's Gate Reservoir, limiting the area impacted by heavy sediment loaded storm flows. As this would result in a similar amount of sediment removal, Alternative 4, Sluicing will not significantly impact freeway segments or freeway on- and off-ramps but will significantly impact the following intersections:

- Irwindale Avenue/Foothill Boulevard intersection during the PM peak hour;

- Figueroa St/Scholl Canyon Road and SR-134 westbound ramps during the AM and PM peak hours;
- Glenoaks Boulevard/Osborne Street intersection during the AM and PM peak hours;
- Sheldon Street and San Fernando Road intersection during the PM peak hour;
- and Branford Street and San Fernando Road intersection during the PM peak hour.

The Irwindale Avenue/Foothill Boulevard intersection is anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact. Mitigation Measure MM TRA-1 would reduce the impact to the Irwindale Avenue/Foothill Boulevard intersection to less than significant.

The Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact. Reducing this impact to less than significant would require implementation of the following potential impact reduction measure:

- Figueroa Street/Scholl Canyon Road and SR-134 westbound ramps: Restripe the westbound right turn lane to a shared left-right turn lane and the northbound through lane to a shared through-right turn lane. The northbound direction will include a shared through-right turn lane and a right turn lane. The southbound direction will include a shared through-left turn lane and a through turn lane. The westbound direction will include a left turn lane and a shared left-right turn lane. This impact reduction measure will require the approval of the City of Los Angeles and Caltrans.

Implementation of the impact reduction measure discussed above would reduce the impact to the Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection to less than significant. This impact reduction measure cannot be legally imposed by the LACFCD. Every reasonable effort will be made to coordinate with and receive approval to implement the impact reduction measure; however, LACFCD cannot guarantee that the measure will be implemented therefore this temporary impact could remain significant.

The Glenoaks Boulevard and Osborne Street intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact.

The Sheldon Street and San Fernando Road intersection and the Branford Street and San Fernando Road intersection are anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in temporary significant impacts. Mitigation Measure MM TRA-2 would reduce the impacts to less than significant.

Mitigation Measures

See Mitigation Measures MM TRA-1, and MM TRA-2.

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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 traffic management from associated removal activities.

Due to impacts associated with downstream sediment removal, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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 traffic management from associated removal activities.

Alternative 4, Sluicing will be environmentally inferior to Alternative 5, Haul Route Alternative as Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

TRANSPORTATION-3 *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Sediment Removal

Implementation of the Alternative 4, Sluicing may include impact reduction measures that would require modifications to the existing roadway network. Alternative 4, Sluicing is limited to excavation and transportation of vegetation that has accumulated in Devil's Gate Reservoir and would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, impacts related to traffic hazards would be less than significant.

If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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, which will have impacts associated with transportation and traffic. Even if trucking of sediment further downstream is required, it would not introduce any uses that would be incompatible or substantially increase hazards with the existing roadway system; and it would have less than significant impacts.

Reservoir Management

The reservoir management associated with Alternative 4, Sluicing would not require any modifications to the existing roadway network and would not introduce any new uses that would be incompatible with the existing roadway system; therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project, or any of the other alternatives as it would not introduce any new uses that would be incompatible with the existing roadway system.

TRANSPORTATION-4 *Result in inadequate emergency access.*

Sediment Removal/Reservoir Management

Alternative 4, Sluicing would not sever or otherwise block access to any existing roadways. No equipment staging will occur on public roadways during construction of the Proposed Project. The impact to emergency access would be a less than significant impact.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project or any other alternative except for Alternative 6, No Project Alternative.

Alternative 4, Sluicing will be environmentally superior to Alternative 6, No Project Alternative as the No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

TRANSPORTATION-5 *Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Sediment Removal

Alternative 4, Sluicing would be confined to the roadway network described in Section 3.16.2 and would not adversely affect alternative modes of public transportation such as light rail. Implementation of Alternative 4, Sluicing would not require closure of any bus stops or disrupt any existing bus routes. The degrading of LOS at intersections, freeway segments, and freeway on- and off-ramps described above under TRANSPORTATION-2 could affect buses using the existing roadway network. This would be a temporary potentially significant impact.

Reservoir Management

The reservoir management associated with Alternative 4, Sluicing would require periodic management activities at Devil's Gate Reservoir that would not adversely affect traffic level of service on the existing roadway network that could delay bus services. Therefore, reservoir management impacts would be less than significant.

Mitigation Measures

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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 transportation from associated removal activities.

Due to the lack of trucking sediment offsite during sediment removal and reservoir management, Alternative 4, Sluicing will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

Alternative 4, Sluicing will be environmentally inferior to Alternative 5, Haul Route Alternative as Alternative 5, Haul Route Alternative will result in reduced traffic impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

UTILITIES & SERVICE SYSTEMS

UTILITIES-1 *Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Sediment Removal

As with the Proposed Project, during sediment removal Alternative 4, Sluicing will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment and vegetation removal operations will result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Although the drainage characteristics for the site will be altered, the project overall will result in a positive impact to drainage of Devil's Gate Reservoir because it will help restore the flood control capacity of Devil's Gate Dam and Reservoir. As with the Proposed Project, Alternative 4, Sluicing will add minimal impermeable surface area to the Proposed Project site through paving a portion of the access roads from Oak Grove Drive. This minimal increase in impervious surface area will not result in any significant increase in stormwater runoff that will require new stormwater drainage facilities.

In addition, these activities will not directly involve the existing storm drain outfalls, power lines, gas line, communication lines, water lines, sewer lines, or water wells. Impacts to these utility facilities will be avoided through compliance with City regulations regarding utility facilities, coordination with utility providers, and implementation of LACDPW BMPs.

Reservoir Management

During reservoir management, Alternative 4, Sluicing will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment that accumulates after the proposed removal will be removed through sluicing. No impacts to stormwater facilities are expected during sluicing operations. Impacts to stormwater facilities during mechanical removal will be avoided through compliance with City regulations regarding stormwater facilities and implementation of LACDPW BMPs.

Mitigation Measure

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 3, Configuration D will not result in any potentially significant impacts to utility facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 4, Sluicing is considered neither environmentally superior nor inferior to the Proposed Project nor to any of the other alternatives.

4.7.4 Conclusion and Relationship to Project Objectives

Alternative 4, Sluicing will meet the Proposed Project's objectives of satisfactorily reducing flooding risk, creating a configuration suitable for routine operations and maintenance, reducing the possibility of plugging at the dam face, and removing sediment from Johnson Field. The alternative will not meet the Proposed Project objectives of removing sediment in a timely manner, as sediment removal would occur over multiple decades under this alternative. In addition, sediment will not be transported to facilities already designated to accept such material; instead the sediment will be transported downstream, where, if proper sediment transport does not occur under Alternative 4, Sluicing sediment deposits will 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.

Alternative 4, Sluicing is considered environmentally inferior to the Proposed Project due to a longer duration in construction activities and potential downstream impacts. Alternative 4, Sluicing would initially be environmentally superior to the Proposed Project in terms of air quality, greenhouse gas, noise, and traffic impacts, as sediment will not be trucked offsite. If proper sediment transport does not occur under Alternative 4, Sluicing, sediment deposits will 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. This removal effort may require roadway modifications.

Due to the increase in sediment removal and reservoir management areas, Alternative 4, Sluicing will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

Alternative 4, Sluicing is considered environmentally inferior to Alternative 5, Haul Route Alternative due to a longer duration in construction activities and potential downstream impacts.

Alternative 4, Sluicing will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities, although aesthetics, biological resources, and recreation resources of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

4.8 ALTERNATIVE 5, CONFIGURATION A, HAUL ROUTE ALTERNATIVE

4.8.1 Alternative Description

Sediment Removal

Alternative 5, Haul Route Alternative excavation activities will remove approximately 2.9 million cy of current excess sediment in the reservoir in addition to any additional sediment received from storm flows during the project. This is the same excavation volume as the Proposed Project.

Excavation/Reservoir Configuration

Specific excavation limits and reservoir configuration for Alternative 5 will be the same as the Proposed Project, as shown in Figure 2.5-1.

Removal Method

In order to excavate sediment from the reservoir, trees and vegetation growing within the excavation areas or where haul roads are located will need to be removed. In the areas where excavation will not take place, vegetation will not be removed.

The accumulated sediment will be excavated within the limits shown in Figure 2.5-1.

The excavation will be accomplished using the same removal method as the Proposed Project. Construction equipment will include but not be limited to approximately four front loaders with 4-yard buckets, two bulldozers, one excavator, one grader, one water truck, and two tender trucks. Vegetation and organic debris will be separated from the sediment. Coarse material may need to be processed through sorters and crushers to be hauled offsite. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within the excavation limits in Devil's Gate Reservoir.

Sediment Disposal

This Alternative will use the same disposal sites as the Proposed Project.

Sediment Disposal Truck Routes

This Alternative analyzes the use of alternative routes for some of the segments of the sediment disposal truck routes.

Project Site and Freeway Access

The sediment disposal truck alternative routes to and from the Proposed Project Site and I-210 are shown in Figure 4.8-1: Haul Route To and From Proposed Site and I-210 Alternative, Option 1 and Figure 4.8-2: Haul Route To and From Proposed Site and I-210 Alternative, Option 2. Option 1 haul route will avoid La Cañada High School and Hillside School and Learning Center and also avoid the Berkshire Place and I-210 eastbound ramps intersection. Under the Proposed Project, this intersection was anticipated to operate at an unacceptable LOS during the AM peak hour, resulting in a significant impact. Option 2 haul route will avoid the use of Windsor Avenue.

For Option 1, as shown in Figure 4.8-1, trucks will access the Proposed Project site from I-210 by exiting Windsor Avenue/Arroyo Boulevard, turning right on eastbound Windsor Avenue, turning left onto northbound Oak Grove Drive, and then entering the east reservoir access road.

Loaded trucks will exit the reservoir on the improved, existing westerly access road, turning left onto southbound Oak Grove Drive, then right onto westbound Windsor Avenue, and then east onto I-210 east, to disposal sites in Azusa and Irwindale or I-210 west to the Sun Valley disposal sites.

Alternatively, for Option 2, as shown in Figure 4.8-2, trucks will access the Proposed Project site from I-210 by exiting at Berkshire Place, turning east onto Berkshire Place, turning right onto southbound Oak Grove Drive, then entering the reservoir by making a left onto the ramp on the east side of the reservoir.

Loaded trucks will exit the reservoir on the upgraded existing west side access road, turn right onto northbound Oak Grove Drive, then left onto westbound Berkshire Place, and then to I-210 eastbound to disposal sites in Azusa and Irwindale or to I-210 westbound to disposal sites in Sun Valley.

Manning Pit SPS Route

As shown in Figure 4.8-3, trucks carrying sediment to the Manning Pit SPS will follow I-210 east, exiting at Irwindale Avenue, turning right onto Irwindale Avenue southbound, turning left onto eastbound Gladstone Street, then turning right onto southbound Vincent Avenue, and turning right into Manning Pit SPS. Trucks returning to I-210 will take Vincent Avenue north, turning right onto Arrow Highway eastbound, turning left onto Azusa Avenue northbound, then turning right onto First Street eastbound to I-210 west.

Waste Management Facility/Vulcan Materials Reliance Facility

This Alternative would use the same routes to either Waste Management Facility or Vulcan Materials Reliance Facility as the Proposed Project.

Sun Valley Disposal Sites Routes

As shown in Figure 4.8-4: Haul Route Alternatives To and From Sun Valley Sites, trucks carrying sediment to Sheldon Pit, Sun Valley Fill Site, and Bradley Landfill will follow I-210 west until exiting at the Wheatland Avenue interchange; turning right onto Wheatland Avenue northbound, right onto Foothill Boulevard eastbound, and then right onto Wentworth Street westbound. If accessing Sheldon Pit or Sun Valley Fill Site, trucks will turn right onto Sheldon Street. Trucks accessing Bradley Landfill will turn left onto Glen Oaks Boulevard, then right onto Peoria Street.

Trucks accessing Boulevard Pit will follow I-210 west to SR-118 west to I-5 south until exiting at the Osborne Street; turning left onto Osborne Street eastbound, right onto Laurel Canyon Boulevard southbound, then left onto Branford Street eastbound, entering and exiting on Branford Street. Trucks will then follow this route in reverse to return to I-210.

Scholl Canyon Landfill Route

As shown in Figure 4.8-5: Haul Route Alternative To Scholl Canyon Landfill, for vegetation and organic material disposal, the trucks will follow I-210 west to SR-2 south to SR-134 east, exit Figueroa Street northbound, and then turn right on northbound Scholl Canyon Road to the Scholl Canyon Landfill. Exiting southbound on Scholl Canyon Road, returning trucks will turn right onto Figueroa Street to access SR-134 westbound to SR-2 north and continue to I-210 east.

Project Schedule

As with the Proposed Project, sediment removal under this Alternative will occur between Summer 2015 and Summer 2020. Excavation and associated activities within the reservoir area are expected to take

place during drier months, from April to December, Monday through Saturday (except on holidays), as weather permits. During dry years, work could potentially start earlier and/or continue later. Alternative 5, Haul Route Alternative sediment removal activities will take place Monday through Friday to between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday.

Reservoir Management

Alternative 5, Haul Route Alternative will employ reservoir management to manage sediment in a method similar to the Proposed Project's reservoir management Option 1 to reduce buildup of sediment in the reservoir management area and eliminate or substantially reduce the occurrence of another large-scale sediment removal project in the future.

The reservoir will be maintained with the approximate reservoir management cut and elevation levels shown as the green shaded area in Figure 2.5-1. This will include the entire Configuration A excavation area for total reservoir management acreage of approximately 120.42 acres. The access roads will be maintained to provide proper road width for access.

Vegetation Maintenance

Vegetation within the reservoir management area of the reservoir will be mowed or removed and grubbed annually. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall. All vegetation and sediment outside the reservoir management footprint will be allowed to re-establish and/or remain in place.

FAST Operations

During FAST operations, reservoir inflows from rain events will naturally pass sediment through the reservoir and downstream of the dam. These FAST operations will occur during the winter storm season and will not require mechanical agitation or assistance. FAST operations will reduce sediment accumulation in the reservoir and help maintain flood control capacity. The amount of sediment that will be transported through FAST operations is limited by the smaller sediment grain size that can be moved by the storm runoff received into the reservoir and the subsequent quantities of storm runoff received.

It is anticipated that the majority of these FAST operations will be similar to historic FAST operations and that similar volumes of sediment will pass through the reservoir and into the Arroyo Seco.

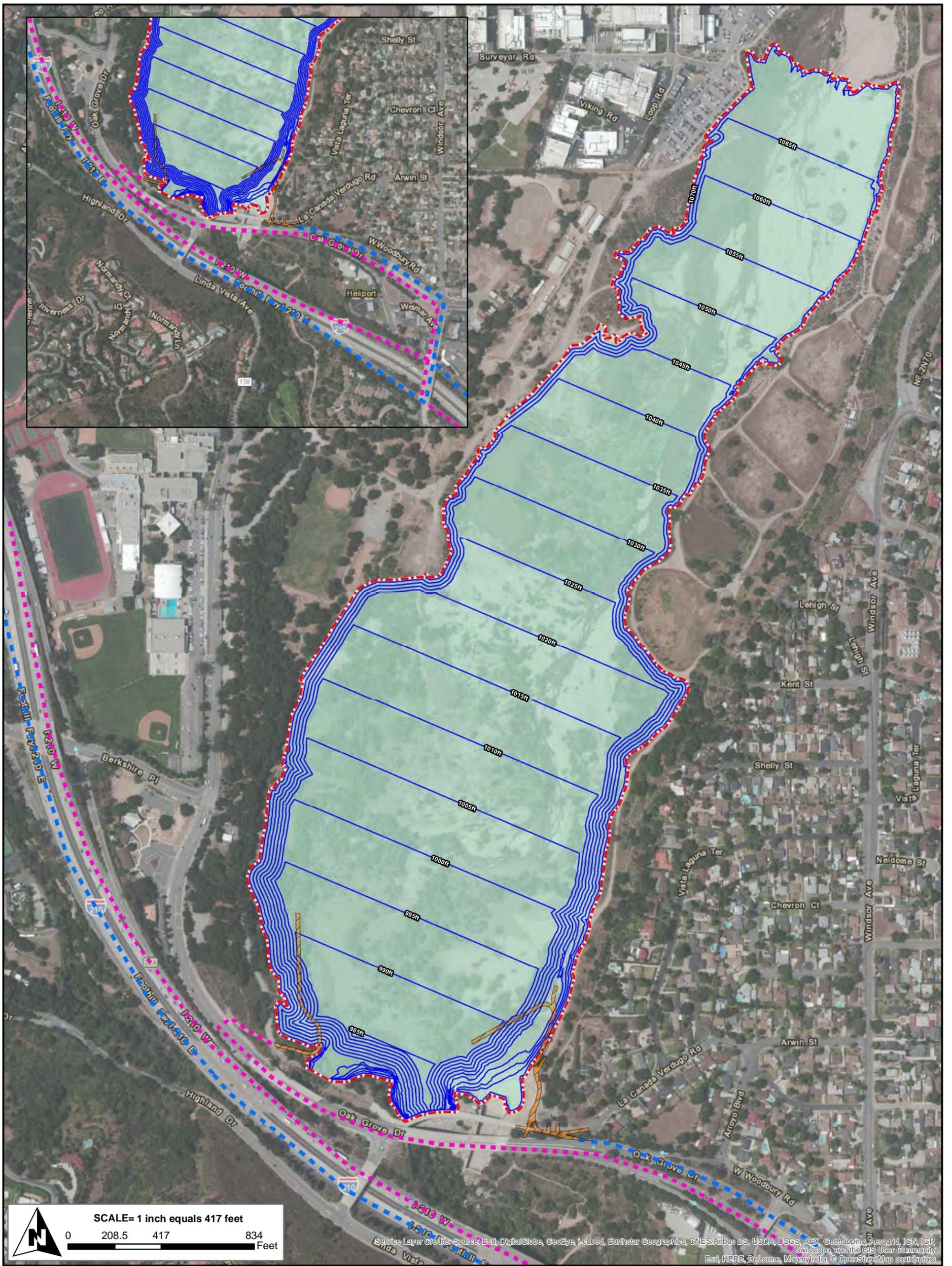


Figure 4.8-1
Haul Route To and From Proposed
Project Site and I-210 Freeway Alternative, Option 1

Alternative 5

Version Date: 10/13/2014



- Proposed Project Boundary
- Access Road
- Haul Routes**
- Inbound Haul Route
- Outbound Haul Route

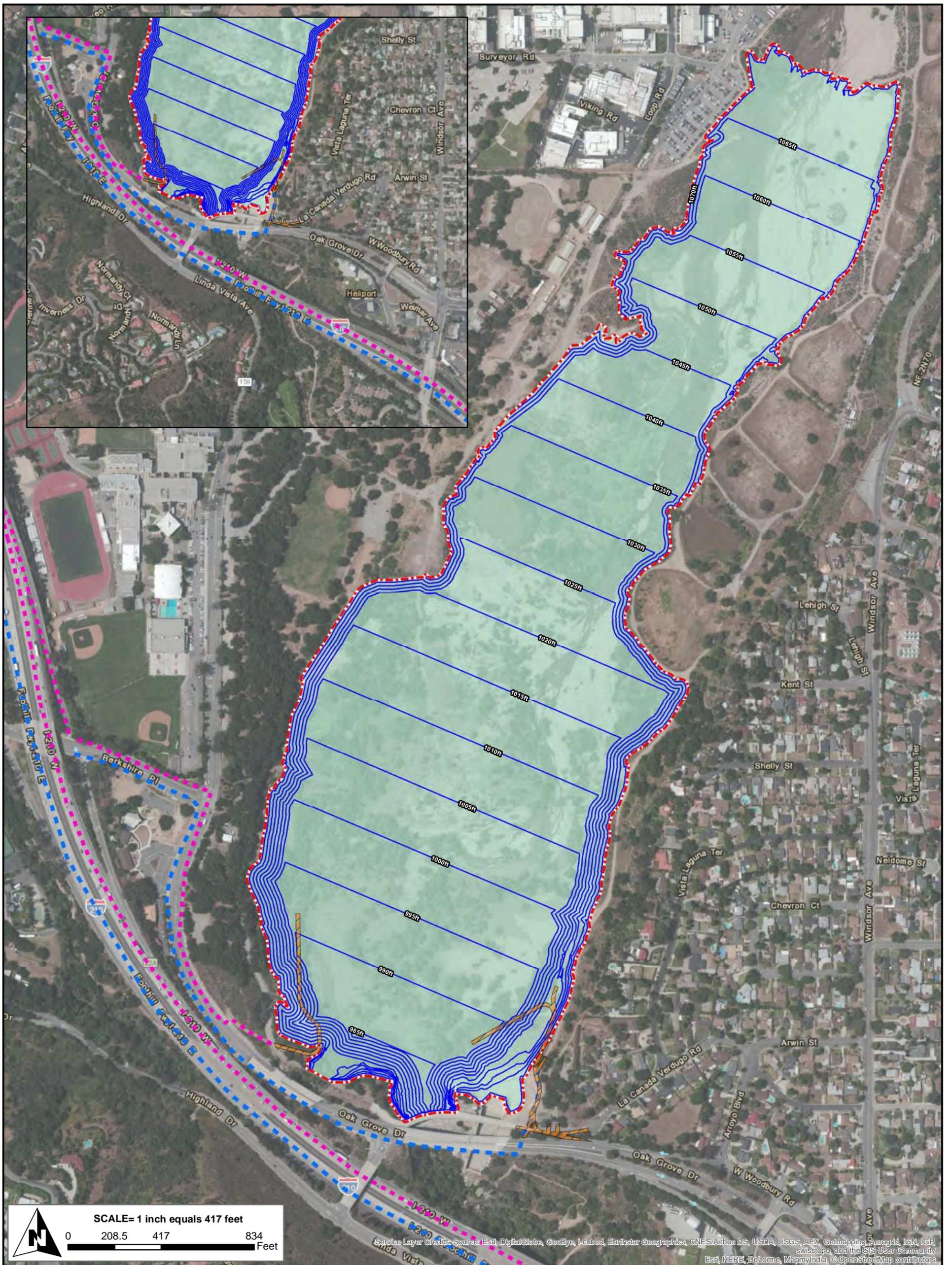


Figure 4.8-2
Haul Route To and From Proposed
Project Site and I-210 Freeway Alternative, Option 2

Alternative 5

Version Date: 10/13/2014



 Proposed Project Boundary

 Access Road

Haul Routes

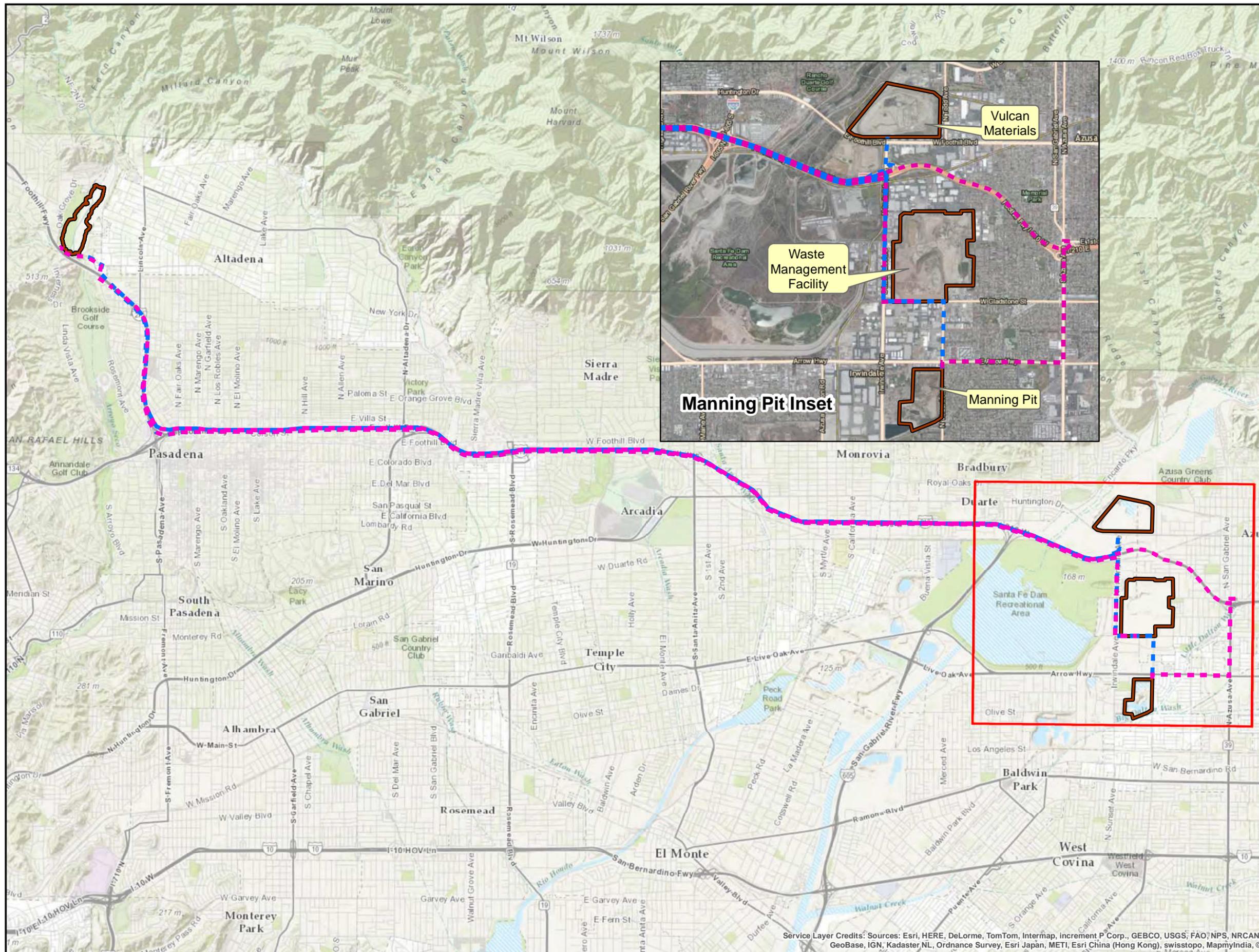
 Inbound Haul Route

 Outbound Haul Route

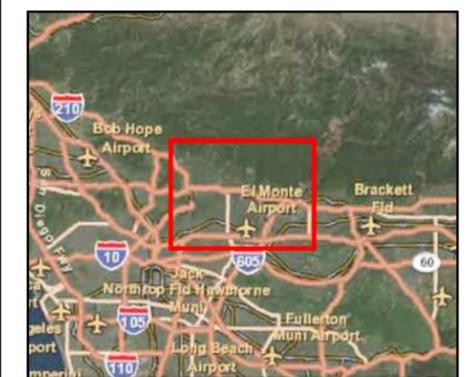
Figure 4.8-3
Haul Route Alternative
 To and From Manning Pit
 and I-210 Freeway

Version Date: 10/1/2014

-  Approximate Limits of Work
-  Access Road
- Haul Routes**
-  Inbound Haul Route
-  Outbound Haul Route



SCALE= 1 in = 1 mile
 0 0.5 1 2
 Miles



Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, ©

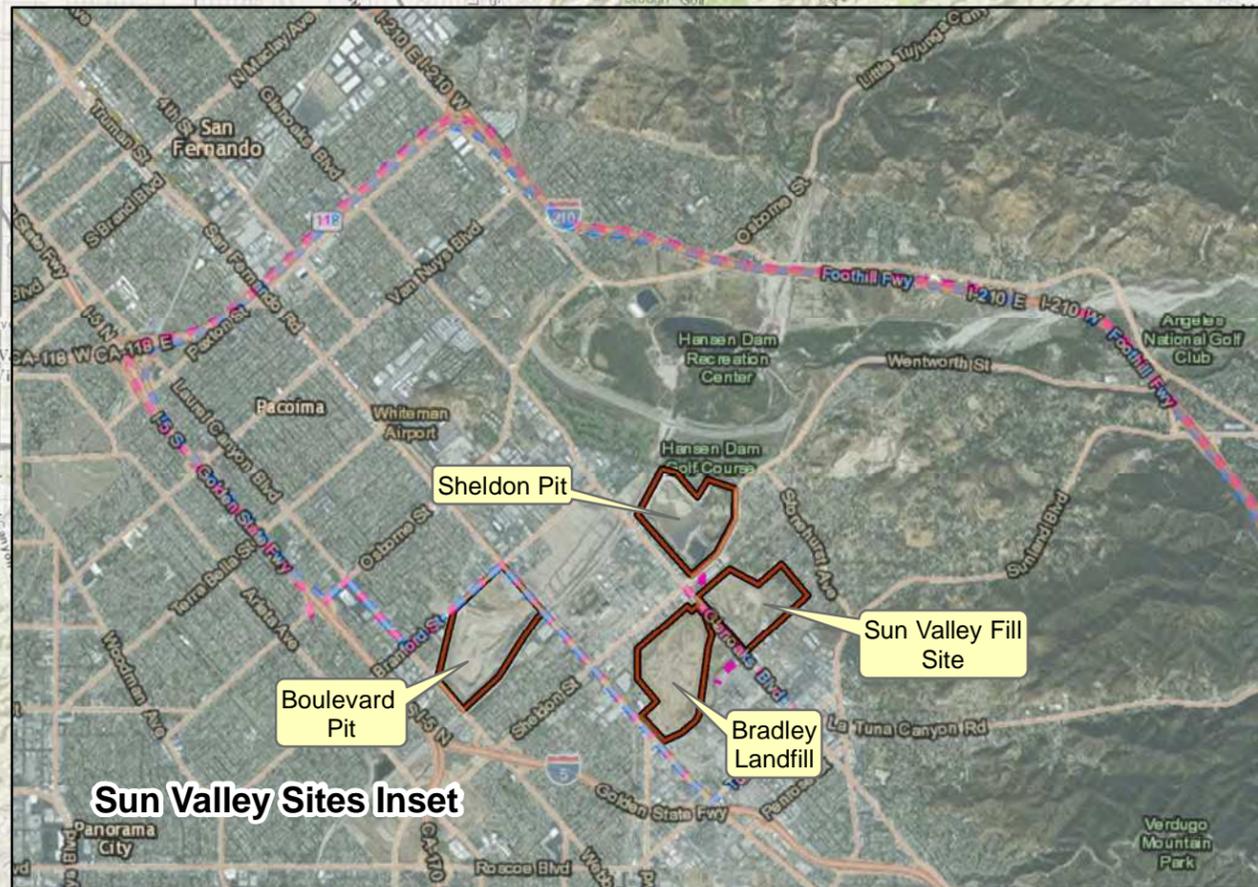
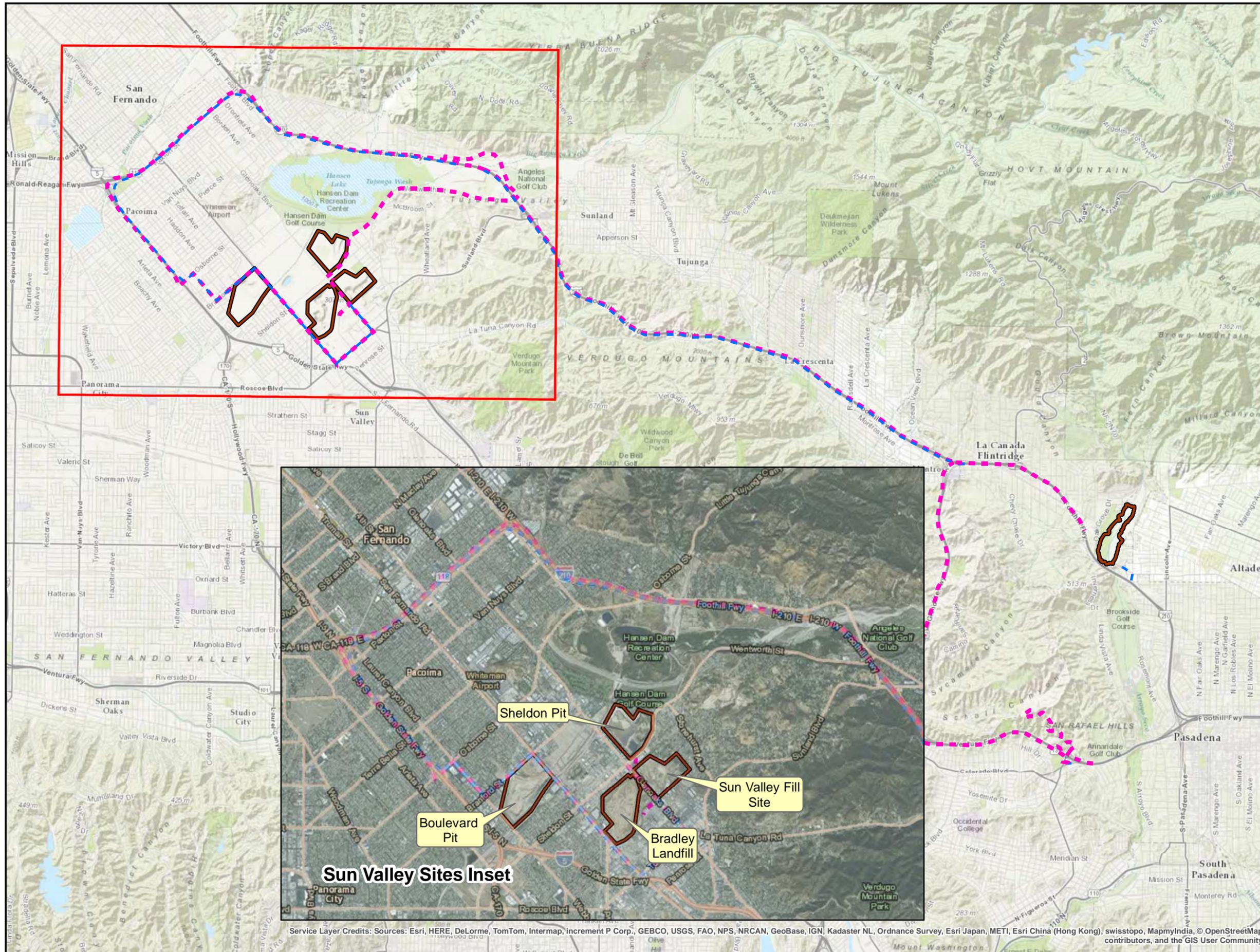


\\cg-gisdata\1\GIS_DATA\Projects\200000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 4.8-3 Haul Route Alternative To and From Manning Pit and I-210 Freeway.mxd

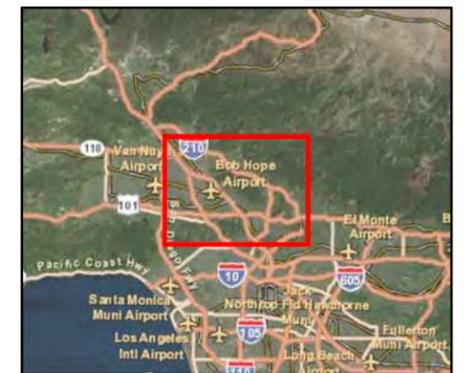
Figure 4.8-4
Haul Route Alternatives
To Sun Valley Sites

Version Date: 10/1/2014

-  Approximate Limits of Work
-  Access Road
- Haul Routes**
 -  Inbound Haul Route
 -  Outbound Haul Route



SCALE=1 inch equals 1 mile
0 0.5 1 2
Miles



Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



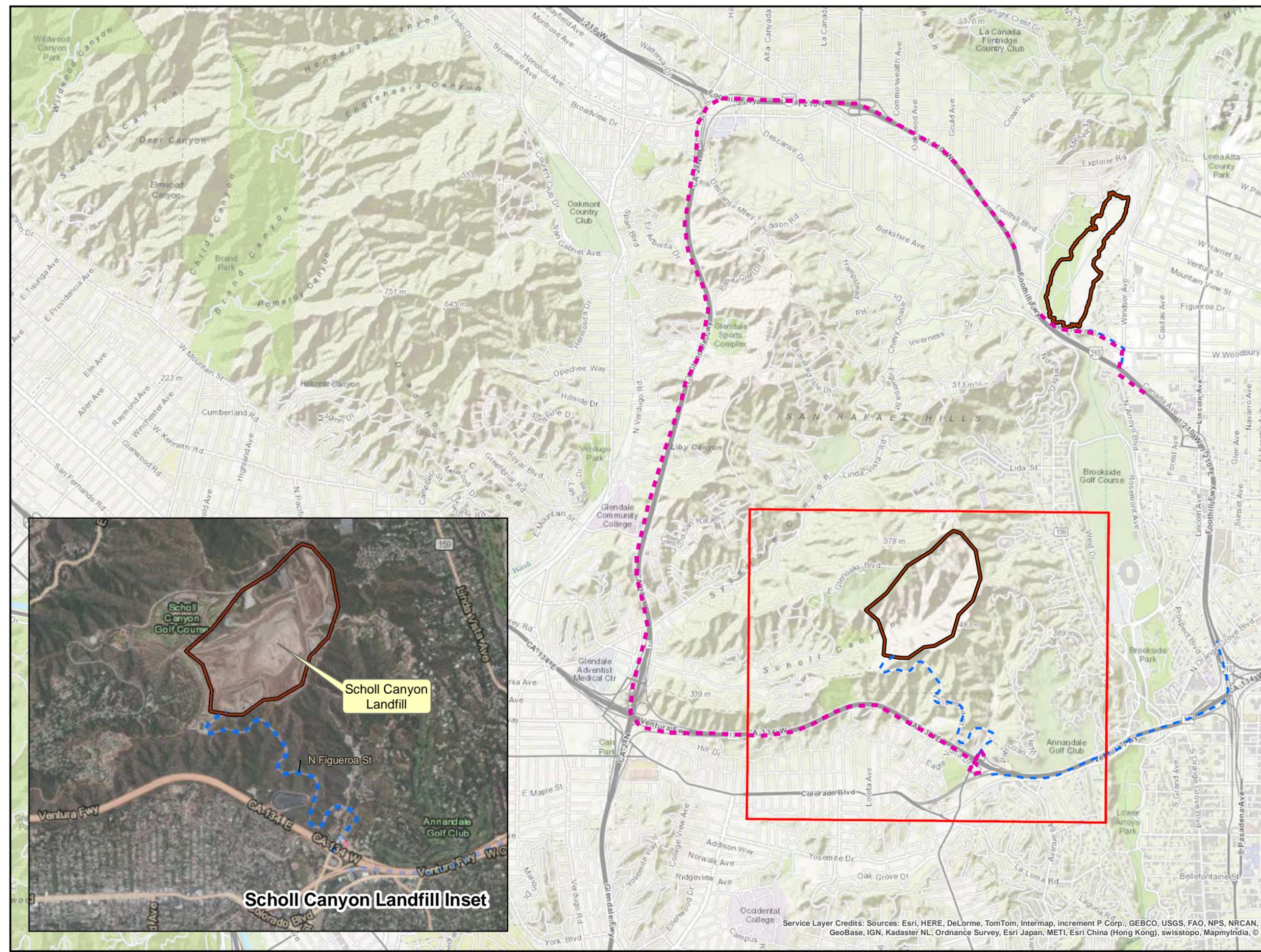
Figure 4.8-5
Haul Route Alternative
To Scholl Canyon Landfill

Version Date: 10/1/2014

-  Approximate Limits of Work
-  Access Road
- Haul Routes**
-  Inbound Haul Route
-  Outbound Haul Route



SCALE=1 inch equals 1 mile
 0 0.25 0.5 1
 Miles



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\\eg-gisdata\1\GIS_DATA\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 4.8-5 Haul Route Alternative To Scholl Canyon Landfill.mxd

Sediment Excavation/Trucking Offsite

Depending on the efficiency of the FAST operations, some mechanical excavation and trucking offsite may be required to remove accumulated sediment. Sediment excavation/trucking offsite during reservoir management will use the same methods and trucking routes as the sediment removal activities. The accumulated sediment will be excavated with construction equipment, including but not limited to approximately two front loaders with 4-yard buckets, one bulldozer, one excavator, one grader, one water truck, and two tender trucks (for fuel and maintenance). Vegetation and organic debris will be separated from the sediment. The need for future sediment removal will depend on future storm activity and associated sediment accumulation.

As with the Proposed Project, it is estimated, based on past storm events, that sediment excavation/trucking offsite will be required to remove typically 13,000 cy of sediment annually. Based on an estimated removal of 4,800cy per day, it is expected this will occur over an estimated two-week period, working Monday through Friday. This sediment excavation activity will take place during the late summer/early fall following the vegetation maintenance.

Moderately large sediment deposits have the potential to occur during a storm season with very intense rainfall or following a significant wildfire within the watershed. Such events are expected to occur very infrequently. It is anticipated that even with this type of event the newly deposited sediment could be removed in one season. A moderately large sediment removal event, anticipated to involve approximately 170,000 cy, could take place over an estimated 12-week period during the late summer and early fall following the vegetation maintenance.

4.8.2 Alternative Duration

A large-scale sediment removal project will be required if a significant amount of sediment accumulates in the reservoir or outside the maintenance footprint despite the reservoir management activities. This is not anticipated for a period of over two decades unless major fires and subsequent intense storms occur within the watershed. Sediment outside the maintenance footprint will be monitored to determine if the sediment buildup is exceeding projected volumes. If future reservoir conditions threaten dam operations, LACFCD will initiate the planning process for a new large-scale sediment removal project. Part of this planning will involve utilizing the CEQA process to evaluate and determine the appropriate level of environmental document required for the future project.

4.8.3 Impact Analyses and Comparison to Proposed Project

AESTHETICS

AESTHETICS-1 *Have a substantially adverse effect on a scenic vista.*

Sediment Removal

Sediment removal activities associated with Alternative 5, Haul Route Alternative will change the visual characteristics of the reservoir through the removal of sediment and associated vegetation in the reservoir. These changes will be the same as the Proposed Project, as the sediment removal area and activities would be the same as the Proposed Project.

As with the Proposed Project, sediment removal activities associated with Alternative 5, Haul Route Alternative will not result in obstruction or blockage of views, due to the large difference in elevation between viewpoints and the Proposed Project site.

Construction equipment will be visible in the basin. Views of construction equipment will be expected elements in the viewshed due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

With sediment removal under Alternative 5, Haul Route Alternative, the topography of the reservoir will be the same as the Proposed Project. These elements will result in a high degree of contrast from existing visual characteristics and will result in a potentially significant impact to scenic vistas. These contrasting elements will be highly visible for Viewpoints 1 through 3. For Viewpoints 1 and 3, however, the co-dominant features of Devil's Gate Dam, the reservoir maintenance roads, electrical lines, the debris boom line, and other less dominant features of the San Gabriel Mountains, Oak Grove Drive, JPL facilities, and residential areas will remain unchanged. In addition, the existing vegetation along the west side of the reservoir will not be removed and will share dominance with the dam and the excavation area.

Sediment removal activities will also be visible from Viewpoint 4 and Viewpoint 5 but will be less dominant due to distance and other more dominant visual elements. The dominant features for Viewpoint 4 (I-210, Devil's Gate Dam, San Gabriel Mountains, and the west side of the reservoir) and Viewpoint 5 (spreading grounds, JPL facilities) will remain unchanged.

As with the Proposed Project, excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, as weather permits. During the wetter months, changes to the visual characteristics associated with sediment removal will be slightly less apparent when water is stored in the basin. Some regrowth of riparian vegetation will likely occur during this time. Both these factors will reduce the change in the visual characteristics associated with sediment removal. In addition, as discussed above, sediment removal activities will not introduce view-obstructing features.

Nevertheless, due to the multi-year duration of the sediment removal phase under Alternative 5, Haul Route Alternative, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to scenic vistas.

Reservoir Management

As with the Proposed Project, reservoir management will not result in obstruction or blockage of views. Construction equipment will also be visible in the basin but only for short periods of time.

After completion of the proposed sediment removal activities associated with Alternative 5, Haul Route Alternative, the disturbed areas outside the reservoir management area are expected to experience natural regrowth with native vegetation, primarily Riparian Herbaceous vegetation. The area available for regrowth will be the same for this alternative as for reservoir management Option 1 under the Proposed Project. Therefore, as with the Proposed Project, Alternative 5, Haul Route Alternative will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas.

Mitigation Measure

No feasible mitigation measures were identified for sediment removal. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation measures, impacts to scenic vistas from sediment removal activities will remain significant.

Reservoir management impacts to scenic vistas will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to scenic vistas.

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 scenic vistas due to the similarities in sediment removal and reservoir management areas and associated activities.

Due to the larger area of sediment removal and reservoir management areas and associated activities, Alternative 5, Haul Route Alternative will be environmentally inferior to all the other alternatives except for Alternative 4, Sluicing.

Due to the extended time frame for sluicing activities, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally to Alternative 6, No Project Alternative as views of the reservoir will degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

AESTHETICS-2 *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 5, Haul Route Alternative will not involve damage to rock outcroppings or historic buildings but will involve removal of vegetation, including native and non-native trees from the site. The Proposed Project site is not visible from the only designated state scenic highway in the vicinity of the Proposed Project site, SR-2. Therefore, implementation of this alternative will not damage scenic resources within the viewshed of a designated state scenic highway.

I-210, located to the south of the Proposed Project site, is identified as "Eligible" in the State Scenic Highway Program. Alternative 5, Haul Route Alternative will impact the existing visual character of a portion of the viewshed through the removal of vegetation including native and non-native trees from the site. This impact to visual character of a portion of the viewshed will be similar in comparison to the Proposed Project due to the similar sediment removal and reservoir management areas and associated activities. In addition, views of the Proposed Project site from I-210 are very brief in nature (visibility for

approximately 0.3 mile) and are dominated by views of the JPL facilities and San Gabriel Mountains. Implementation of Alternative 5, Haul Route Alternative will not obstruct views of these features. Therefore, impacts to scenic resources within this eligible but not designated state scenic highway will be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts After Mitigation Measure

The Proposed Project site is not visible from any designated state scenic highway and is only briefly visible from an eligible state scenic highway; therefore, impacts related to state scenic highways from Alternative 5, Haul Route Alternative sediment removal and reservoir management are less than significant.

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 related to state scenic highways from sediment removal and reservoir management, due to the similarities in sediment removal and reservoir management areas and associated activities.

Due to the extended time frame for sluicing activities, Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally inferior to all of the other alternatives due to sediment removal and reservoir management volumes and activities except for Alternative 6, No Project Alternative.

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

AESTHETICS-3 *Substantially degrade the existing visual character or quality of the site and its surroundings.*

Sediment Removal

As described above under AESTHETICS-1, the proposed sediment removal activities associated with Alternative 5, Haul Route Alternative will change the visual characteristics of the existing Proposed Project site through the removal of sediment and associated vegetation in the reservoir.

Disturbed landscape areas, both man-made and natural, are currently found throughout the basin. The amount and distribution of these areas change on a regular basis and are expected visual elements in the Proposed Project site landscape. Construction equipment will also be visible in the basin. Views of construction equipment will be expected elements in the viewshed, due to the ongoing IMP measures currently underway to keep debris from plugging the outlet works; however, the amount of equipment and duration onsite will be greater for the Alternative than for the IMP measures.

Sediment and debris management are considered existing operational components of Devil's Gate Reservoir and are not considered potentially significant impacts to the visual characteristics of the site (City of Pasadena 2002). During the sediment removal phase of Alternative 5, Haul Route Alternative the disturbed areas will, in large, replace the vegetated areas, resulting in a high degree of contrast between existing and sediment removal conditions. While the open character of the site will remain, the overall visual quality of the Proposed Project site will be lower due to the large-scale alteration and decrease of desirable elements.

Excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, as weather permits. During the wetter months, temporary changes to the visual characteristics of the Proposed Project site will be slightly less apparent with water storage in the basin. Some regrowth of riparian vegetation will also likely occur during this time. Both these factors will reduce the temporary change in the visual characteristics associated with sediment removal. Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, and level of viewer sensitivity, sediment removal activities will be a potentially significant impact to the visual character of the Proposed Project site.

Although the sediment removal associated with this alternative will result in a potentially significant impact to the visual character of the Proposed Project site, the degree of contrast will be similar in comparison to the Proposed Project due to the similarities in excavation area and associated sediment removal activities.

Reservoir Management

As with the Proposed Project, construction equipment will also be visible in the basin but only for short periods of time. As described previously, vegetation conditions on the Proposed Project site will change annually from disturbed to low and dense. Due to the rapid growth of wetland herbaceous plants, it is expected that during the majority of the year the Proposed Project site will appear vegetated. Therefore, Alternative 5, Haul Route Alternative will result in a similar degree of contrast as seen during sediment removal and will result in a less than significant impact to visual characteristics.

Impacts to visual character of the Proposed Project site with this Alternative will be similar in comparison to reservoir management Option 1 under the Proposed Project due to the similarities in reservoir management area and associated reservoir management activities.

Mitigation Measures

No feasible mitigation measures were identified for sediment removal. For reservoir management, the less than significant impacts will be further reduced through the implementation of Mitigation Measures MM BIO-6, MM BIO-7, and MM BIO-8.

Residual Impacts After Mitigation

Due to the multi-year duration of the sediment removal phase, the large-scale alteration, visibility of the site, the level of viewer sensitivity, and the lack of feasible mitigation, impacts to visual character from sediment removal activities will remain significant.

Reservoir management impacts to visual character will result in a lower degree of contrast than seen during sediment removal and will result in a less than significant impact to visual character.

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 visual character due to the reduction in sediment removal area and reservoir management Option 1 area and associated activities.

Due to the extended time frame for sluicing, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally inferior to all of the other alternatives to sediment removal and reservoir management volumes and activities except Alternative 6, No Project Alternative, as views of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

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 5, Haul Route Alternative 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 5, Haul Route Alternative's combined NO_x emissions during sediment removal to a level of less than significant. Therefore, impacts during sediment removal will be 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.

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 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.

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.

Mitigation Measures

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

Residual Impacts After Mitigation

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 to a level of less than significant.

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

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 standards due to the similarities in sediment removal and reservoir management areas 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 greater amounts of sediment removal and reservoir management activities.

AIR QUALITY-3 *Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Sediment Removal/Reservoir Management

Air Quality Plans

As discussed previously, Alternative 5, Haul Route Alternative emissions of NO_x are expected to exceed the SCAQMD regional significance thresholds during sediment removal. This exceedance will not be consistent with air quality management plans and therefore will result in a significant cumulative impact. This impact will be similar in comparison to the Proposed Project due to the similarities in excavation area and associated sediment removal activities.

Emissions of VOC, NO_x, PM₁₀, and PM_{2.5} are not expected to exceed the SCAQMD regional significance thresholds during reservoir management. The SCAQMD considers construction-related emissions that do not exceed the project-specific thresholds will not result in a cumulative impact.

Cumulative Health Impacts

As with the Proposed Project, Alternative 5, Haul Route Alternative with Mitigation Measures MM AQ-1 and MM AQ-2, a 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. 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.

Mitigation Measures

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

Residual Impacts After Mitigation

Sediment removal under Alternative 5, Haul Route Alternative will not exceed any localized significance threshold except for combined NO_x emissions. Implementation of these mitigations would reduce combined NO_x emissions of Alternative 5, Haul Route Alternative during the sediment removal phase to a level of less than significant.

Reservoir management will not exceed any localized significance threshold; therefore, this impact will be less than significant.

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 cumulative health 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 greater amounts of sediment removal and reservoir management activities.

AIR QUALITY-4 *Expose sensitive receptors to substantial pollutant concentrations.*

Sediment Removal/Reservoir Management

Localized Significance Thresholds

As with the Proposed Project, the onsite emissions for Alternative 5, Haul Route Alternative for sediment removal and reservoir management activities will not exceed LST thresholds.

Carbon Monoxide Hotspot

As with the Proposed Project, the CO Hotspot analysis for Alternative 5, Haul Route Alternative shows no exceedance of the State or federal CO standard; and no significant impact is expected during sediment removal or management.

Carcinogenic Or Toxic Contaminants

As with the Proposed Project, all routes modeled for Alternative 5, Haul Route Alternative resulted in less than significant non-cancer risk from diesel emissions created by Alternative 5, Haul Route Alternative.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

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 sensitive receptors from substantial pollutant concentrations 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 the other alternatives due to greater amounts of sediment removal and reservoir management activities.

AIR QUALITY-5 *Create objectionable odors affecting a substantial number of people.*

Sediment Removal/Reservoir Management

The CEQA Guidelines indicate that a potentially significant impact would occur if the Proposed Project would create objectionable odors affecting a substantial number of people.

As with the Proposed Project, diesel exhaust for Alternative 5, Haul Route Alternative will be emitted from equipment during the sediment removal process. Diesel exhaust is an objectionable odor to some; however, concentrations will disperse rapidly from the Project site (OB-1 2013). Therefore impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative is not expected to produce objectionable odors beyond the Proposed Project site under sediment removal or reservoir management; therefore this impact will be less than significant.

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 objectionable odors.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to all the other alternatives except for Alternative 6, No Project Alternative.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative, due to sediment removal and reservoir management activities.

BIOLOGICAL RESOURCES

BIOLOGY-1 *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.*

Sediment Removal

Potential impacts to vegetation communities will be identical to the Proposed Project due to the identical sediment removal and reservoir management areas.

Sensitive Plants

No listed or otherwise sensitive plant species were observed on the Proposed Project site. Therefore, as with the Proposed Project, Alternative 5, Haul Route Alternative is not expected to have a substantial adverse effect on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Sensitive Wildlife

The Proposed Project site contains habitat and/or potential habitat for five special status species: least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake. Least Bell's vireo, yellow warbler, coast range newt, and two-striped garter snake have all been observed on the Proposed Project site. The southwestern pond turtle has not been observed on the Proposed Project site. If it did occur, habitat for this species would be largely limited to ponded areas.

Alternative 5, Haul Route Alternative will disturb the same amount of acreage that will be disturbed under the Proposed Project. Potential impacts to sensitive wildlife will be the same as the Proposed Project due to the same amount of habitat disturbed during sediment removal activities.

Habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake occurs within streams and seasonal ponds found on the Proposed Project site. The amount of this habitat that will be available will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Under Alternative 5, Haul Route Alternative, disturbance of habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake is expected to be the same as the Proposed Project due to the same reservoir configuration and expected habitat disturbance during sediment removal activities.

Direct harm or take of these species during sediment removal activities would result in a potentially significant impact. The chance of this occurring during sediment removal activities under this alternative is expected to be the same as the Proposed Project due to the identical excavation area. To ensure no harm or take of these special status species, Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3, listed below, have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During sediment removal, tree and vegetation removal has the potential to significantly affect nesting birds and roosting bats if active nests or roosting bats are present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. With implementation of Mitigation Measures MM BIO-4 and MM BIO-5, listed below, impacts to nesting birds and roosting bats will be less than significant.

Reservoir Management

Alternative 5, Haul Route Alternative will result in a similar diversity of vegetation communities as the Proposed Project, since the reservoir management area Option 1 is identical to the Proposed Project.

The availability of streams and seasonal ponds will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Special status species have the potential to use the reservoir management area.

Direct harm or take of these species during reservoir management activities will result in a potentially significant impact. The chance of this occurring during reservoir management activities under this alternative is expected to be the same as the Proposed Project's reservoir management Option 1. To ensure no harm or take of these special status species occurs, MM BIO-1, MM BIO-2, and MM BIO-3 have been provided. With implementation of these mitigation measures, direct impacts to special status species will be less than significant.

During reservoir management, tree and vegetation removal will significantly affect nesting birds and roosting bats, if present. Disturbance of active nests will violate the Migratory Bird Treaty Act and result in a potentially significant impact. This impact will be similar under Alternative 5, Haul Route Alternative, as similar amounts of vegetation will be removed in comparison to the Proposed Project. With implementation of Mitigation Measures MM BIO-4 and MM BIO-5, impacts to nesting birds and roosting bats will be less than significant.

Mitigation Measures

MM BIO – 1: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide protection 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 the 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 the 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.

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.

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 CNDDDB field data sheet and submitted to CDFW for inclusion into the CNDDDB.

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. Prior to commencement of sediment removal activities within bird breeding season (March 1 through 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.

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 it 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.

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 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 determined that roosting bats may be present, trees shall be removed as follows:
 - Pushing the 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

Alternative 5, Haul Route Alternative will result in a less than significant impact on candidate, sensitive, or special status species.

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 candidate, sensitive, or special status species 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 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.

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 acreage of riparian or sensitive habitat as the Proposed Project. To minimize impacts, Mitigation Measure MM BIO-8 has been provided. With implementation of this mitigation measure, impacts will be reduced to a level below 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. Areas shall be mapped using aerial photographs.

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 trees that will be removed or potentially affected by the Proposed Project and trees that can be avoided. LACFCD will replace trees that cannot be avoided. The replacement is expected to be up to 1:1 by 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.

MM BIO – 8: A combination of onsite and offsite habitat restoration, enhancement, and exotic removal shall be implemented by LACFCD at a 1:1 ratio for impacted sensitive habitat and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic species removal. Non-native, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. This mitigation measure shall be monitored for success for five years following implementation. A report of the monitoring results shall be submitted annually, during the five years following implementation, to resource agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement.

Residual Impacts after Mitigation

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.

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 water features as the Proposed Project. To minimize impacts, Mitigation Measure MM BIO-8 has been provided.

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 on the Proposed Project site. With implementation of these mitigation measures, impacts to wetlands will be reduced to a level below significance.

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 Alternative 3, 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 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. To minimize impacts to less than significant, Mitigation Measures MM BIO-1 through MM BIO-8 has been provided. 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 be reduced to a level below significance.

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 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. Implementation of mitigation measure MM BIO-7 will reduce impacts to city-protected trees to a level below 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.

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 loss of native trees due to the similarities in number of potentially impacted trees.

Alternative 5, Haul Route Alternative is considered environmentally superior to Alternative 4, Sluicing with respect to impacts to loss of native trees, as downstream sediment deposition could negatively impact trees.

Alternative 5, Haul Route Alternative will be environmentally inferior to all the other alternatives except Alternative 6, No Project Alternative.

Alternative 5, Haul Route Alternative 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.

CULTURAL RESOURCES

CULTURAL-1 *Cause a substantial adverse change in the significance of a historical resource.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no alterations or modifications will be made to any historic resource; and therefore, no significant impact to historical resources is anticipated with this alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No historic resources are within the proposed Project site; therefore Alternative 5, Haul Route Alternative will not result in impacts to historic resources.

Comparison to Proposed Project and Other Alternatives

As no historic resources are within the proposed Project site, Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to historic resources.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

CULTURAL-2 *Cause a substantial adverse change in the significance of an archaeological resource.*

Sediment Removal/Reservoir Management

Alternative 5, Haul Route Alternative will involve ground-disturbing activities under sediment removal and reservoir management; however, as noted in Section 3.5, most of the soil in the Proposed Project area consists of recently accumulated sediment. In areas filled with recently accumulated sediment, archeological sites are not anticipated to exist, although it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified archeological sites have a potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-1 will reduce potential impacts to less than significant.

Mitigation Measures

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 archaeological materials are observed, the excavation in the proximity of the discovery will be diverted until a qualified archaeologist evaluates the discovery.

Residual Impacts After Mitigation

While it is always possible that unidentified archeological sites exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-1, no significant adverse impacts are expected.

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 archaeological resources due to the similarities in sediment removal area and reservoir management Option 1 area. Alternative 5, Haul Route Alternative is also considered neither environmentally superior nor inferior to Alternative 2, Configuration C.

Alternative 5, Haul Route Alternative is also considered neither environmentally superior nor inferior to Alternative 4, Sluicing with respect to archaeological resources.

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 inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

CULTURAL-3 *Cause a substantial adverse change in the significance of a paleontological resource.*

Sediment Removal/Reservoir Management

No paleontological resources were encountered during the course of the survey and are not expected in the accumulated sediment. It is always possible that unidentified paleontological materials exist in

native soil below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified paleontological materials have the potential to be significantly impacted. Implementation of Mitigation Measure MM CUL-2 will reduce impacts to less than significant. This impact will also be similar in comparison to the Proposed Project due to the similarities in area disturbed during sediment removal and reservoir management.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is always possible that unidentified paleontological materials exist in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-2, no significant adverse impacts are expected.

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 paleontological resources due to the similarities in sediment removal area and reservoir management Option 1 area.

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to Alternative 2, Configuration C and Alternative 4, Sluicing with respect to paleontological resources.

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

CULTURAL-4 *Potentially impact unknown human remains within the proposed project site.*

Sediment Removal/Reservoir Management

As with the Proposed Project, archival research and the archaeological survey in connection with the present project did not indicate the presence of any known human remains in the project area. In the event human remains are discovered, implementation of Mitigation Measure MM CUL-3 will reduce impacts to less than significant.

Mitigation Measures

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.

Residual Impacts After Mitigation

While it is possible that human remains could be discovered in native soils below the accumulated sediment, with implementation of Mitigation Measure MM CUL-3, no significant adverse impacts are expected.

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 accidental discovery of human remains due to the similarities in sediment removal area and reservoir management Option 1 area.

Alternative 5, Haul Route Alternative is also considered neither environmentally superior nor inferior to Alternative 2, Configuration C and Alternative 4, Sluicing with respect to accidental discovery of human remains.

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

GEOLOGY & SOILS

GEOLOGY-1 *Potentially result in soil erosion or loss of topsoil during sediment removal activities.*

Sediment Removal/Reservoir Management

Alternative 5, Haul Route Alternative will involve the excavation sediment and deposition of the sediment at facilities already prepared and designated to accept such sediment during sediment removal and reservoir management. Sediment stockpiled at Johnson Field as part of the IMP will also be removed. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow the sediment to dry. If drying is required, stockpiling of the sediment will occur onsite within Devil's Gate Reservoir. Disturbed sediments are more susceptible to erosion; however, as discussed above in Air Quality, these impacts will be reduced to less than significant through implementation of SCAQMD Rule 403 and BMPs. In addition, excavation, grading, and sediment placement activities will be in accordance with established guidelines, permits, and regulations established for each disposal site. As such, sediment removal and reservoir management impacts to erosion will be less than significant. This impact will also be reduced in comparison to the Proposed Project due to the reduction in area disturbed during sediment removal and reservoir management.

Mitigation Measures

No mitigation measures will be required.

Residual Impacts After Mitigation

With implementation of SCAQMD Rule 403 and BMPs and the resulting reduction in potential for erosion, no significant impacts to geology and soils would occur as a result of Alternative 5, Haul Route Alternative.

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 soil erosion due to the same sediment removal area and volume.

Due to the greater sediment removal and reservoir management area, 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 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 potential downstream impacts associated with the sluicing process.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

GREENHOUSE GAS EMISSIONS

GHG EMISSIONS-1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Sediment Removal/Reservoir Management

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 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 5, Haul Route Alternative will have the same amount of daily equipment usage and truck traffic; therefore, this alternative will generate the same greenhouse gas emissions as the Proposed Project, which will not be "cumulatively considerable," and is therefore less than significant under CEQA.

As with the Proposed Project, Alternative 5, Haul Route Alternative may prove a positive effect on climate change. High ambient temperatures coupled with important demand for oxygen due to the degradation of substantial amounts of organic matter favor the production of CO₂, the establishment of anoxic conditions, and thus the production of CH₄. If the reservoir is left as it is, the large quantity of biomass currently existing may exacerbate the condition. With the removal and disposal of most of the organic mass in the Scholl Canyon Landfill, which uses the green waste primarily as "alternative daily cover" (ADC), the overall benefit to the carbon ecosystem will be positive, since prior to using green waste for ADC, larger amounts of cover soil had to be imported into the landfill from offsite sources (Kong et al. 2008). Therefore, use of the green waste as ADC reduces fossil fuel use for cover soil importation and also reduces GHG emissions. This potential benefit will be the same as for the Proposed Project due to the same area of vegetation removal.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with the generation of greenhouse gas emissions will occur as a result of Alternative 5, Haul Route Alternative.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative will generate the same greenhouse gas emissions as the Proposed Project, therefore this Alternative is considered neither environmentally superior nor inferior to the Proposed Project due to overall production of greenhouse gas emissions.

Due to overall production of greenhouse gas emissions, Alternative 5, Haul Route Alternative will be environmentally inferior to all of the other alternatives except Alternative 4, Sluicing and Alternative 6, No Project Alternative.

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 associated with greenhouse gas emissions from removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities and associated production of greenhouse gas emissions.

GHG EMISSIONS-2 *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Sediment Removal/Reservoir Management

AB 32 identified a 2020 target level for GHG emissions in California of 427 MMT of CO₂e, which is approximately 28.5 percent less than the year 2020 BAU emissions estimate of 596 MMT CO₂e. To achieve these GHG reductions, widespread reductions of GHG emissions will have to occur across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. These reductions in mobile-sources and energy production of GHG emissions would occur with or without development of Alternative 5, Haul Route Alternative. Overall, Alternative 5, Haul Route Alternative will be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. Currently, no other GHG reduction plan (i.e., SCAG, SCAQMD, or County) applies to Alternative 5, Haul Route Alternative. As with the Proposed Project, Alternative 5, Haul Route Alternative will not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will occur as a result of Alternative 5, Haul Route Alternative.

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 applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS AND HAZARDOUS MATERIALS

HAZARDS-1 *Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 5, Haul Route Alternative will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 5, Haul Route Alternative

will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-2 *Create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials into the environment.*

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 5, Haul Route Alternative will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-3 *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Sediment Removal/Reservoir Management

As with the Proposed Project, Alternative 5, Haul Route Alternative will include the use of hazardous materials associated with the construction equipment needed to perform the removal activities; however, the proposed construction routes associated with this alternative avoid La Cañada High School and Hillside School and Learning Center. Adherence to County, State, and federal agency regulations governing the use of these materials reduces the potential for impacts to a less than significant level and will not pose a safety hazard to sensitive receptors. No mitigation measures are required.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials within one-quarter mile of an existing school to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered environmentally superior to the Proposed Project, as the construction routes will avoid La Cañada High School and Hillside School and Learning Center.

Alternative 5, Haul Route Alternative will be environmentally superior to all of the other alternatives except Alternative 6, No Project Alternative.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HAZARDS-4 *Located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.*

Sediment Removal/Reservoir Management

EPA included Hahamongna Watershed Park area on the NPL Superfund List due to the presence of detected VOCs and perchlorate in groundwater originating from the JPL property. The impacted groundwater is at 200 feet bgs; and, as with the Proposed Project, the concentrations of organochlorine pesticides, petroleum hydrocarbons (diesel and hydraulic/motor oil range and aromatics), and SVOCs detected in samples collected from Devil's Gate Reservoir are below regulatory thresholds. Therefore, the listing of the watershed on the Superfund List does not present a significant hazard to the public or the environment, and no significant impacts associated with the Alternative 5, Haul Route Alternative are expected.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS-5 *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Sediment Removal/Reservoir Management

Alternative 5, Haul Route Alternative sediment removal and reservoir management activities will occur onsite and will not interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies. Additionally, access to the surrounding roads will be maintained during sediment removal and reservoir management activities and will not interfere with the response facilities located adjacent to the Proposed Project site, including the County of Los Angeles Fire Department Camp 2 and the City of Pasadena Police Department located at 2175 Yucca Lane. Alternative 5, Haul Route Alternative will also increase flood control protection downstream of Devil's Gate Dam. No mitigation measures are required.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 4, Sluicing and Alternative 6, No Project Alternative.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing and Alternative 6, No Project Alternative, as these alternatives will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam. This flooding could also potentially interfere with access to roadways.

HYDROLOGY & WATER QUALITY

HYDROLOGY-1 *Violate any water quality standards or waste discharge requirements.*

Sediment Removal/Reservoir Management

FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. During both sediment removal and reservoir management phases, FAST operations will take place during winter rain events, using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. It is anticipated that these FAST operations will be similar to historic FAST operations and that sediment fines discharged during FAST operations will be transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows. As with the Proposed Project, no significant impacts to water quality standards are expected due to FAST operations.

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 5, Haul Route Alternative activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

With adherence to regulations and permit requirements and implementation of project-specific BMPs, impacts related to otherwise substantially degrading water quality will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

HYDROLOGY-2 *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.*

Sediment Removal/Reservoir Management

As with the Proposed Project, with implementation of Alternative 5, Haul Route Alternative the reservoir will have the ability to contain more of the local runoff, which in turn will result in more stormwater penetrating surface sediment in the project area and subsequently recharging the groundwater basin. No significant impacts to groundwater supplies are expected.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No significant unavoidable adverse impacts would occur as a result of Alternative 5, Haul Route Alternative.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project, due to the same amount of area to contain local runoff.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative due to greater area to contain local runoff and increased percolation due to removal of accumulated sediment.

HYDROLOGY-3 *Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation.*

Sediment Removal/Reservoir Management

Drainage patterns within the reservoir change on a regular basis depending on seasonal conditions, water flow, and sediment deposition. Sediment removal and reservoir management will also result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Excavation, grading, and sediment placement activities will occur under LACDPW regulations, which establish protocols for proper design of slopes and temporary sediment-collecting structures.

Although the drainage characteristics for the site will be altered, Alternative 5, Haul Route Alternative will result in a positive impact to drainage of Devil's Gate Reservoir because it will enhance the flood control abilities of Devil's Gate Dam. While Alternative 5, Haul Route Alternative will result in a small increase of impervious surface area, this small amount is not expected to significantly change drainage patterns nor cause a significant increase in the amount of surface runoff. As such, impacts related to offsite erosion will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will result in a less than significant impact on drainage patterns.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives, except for Alternative 4, Sluicing. Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing due to the potential for erosion associated with the sluicing alternative.

HYDROLOGY-4 *Otherwise substantially degrade water quality.*

Sediment Removal/Reservoir Management

As with the Proposed Project, heavy equipment needed for sediment removal has the potential to cause accidental spills of fuel and lubricating oil. Contaminants could be released into the watershed and adversely affect water quality. Alternative 5, Haul Route Alternative activities involving construction equipment will be temporary and involve the limited transport, use, disposal, and storage of fuel and lubricating oil, which are regulated by various agencies. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

LAND USE & PLANNING

LAND USE-1 *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Sediment Removal

As with the Proposed Project, Alternative 5, Haul Route Alternative will not conflict with the City's General Plan or zoning designation of Open Space for the Proposed Project site and is consistent with the LACFCD easement.

As discussed in Subsection 3.8.3, Applicable Regulations, the HWPMP emphasizes protection of recreational and natural resources as well as the management of flood control for the downstream watershed. Alternative 5, Haul Route Alternative is consistent with HWPMP Goal 2 of managing the flood control basin for protection of the downstream areas by improving and maintaining the flood capacity behind Devil's Gate Dam.

Implementation of sediment removal and reservoir management will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities (see further discussion below in Recreation). With implementation of Mitigation Measure MM LAN-1, impacts associated with recreational activities coexisting with flood management and water conservation will be reduced to less than significant.

Mitigation Measure

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.

Residual Impacts After Mitigation

Impacts associated with recreational activities coexisting with flood management and water conservation would be reduced to less than significant for sediment removal and reservoir management.

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 land use associated with compatibility to habitat restoration and recreation due to the similarities in sediment removal area and reservoir management Option 1 area.

Alternative 5, Haul Route Alternative is considered environmentally superior to Alternative 4, Sluicing with respect to impacts to land use associated with compatibility to habitat restoration and recreation due to the longer time frame for sediment removal activities associated with sluicing.

Due to the greater sediment removal and reservoir management areas, Alternative 5, Haul Route Alternative will be environmentally inferior to all of the other alternatives except Alternative 6, No Project Alternative.

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.

MINERAL RESOURCES

MINERALS-1 *Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.*

Sediment Removal/Reservoir Management

The Proposed Project site contains areas delineated within SMARA zone designated MRZ-2, which indicates that the area contains adequate information to indicate that significant mineral deposits are present or are

judged to have a high likelihood for their presence (City of Pasadena 2002). As with the Proposed Project, under Alternative 5, Haul Route Alternative the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment removal is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will not result in any potentially significant impacts to mineral resources that will be of value to the region and residents of the state.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

MINERALS-2 *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

While the Arroyo Seco Master Plan EIR (2002) states that the reservoir may contain large quantities of arroyo stone, the Proposed Project site is not delineated as a locally important mineral resource recovery site on a local general plan, specific plan, or other local land use plan. As with the Proposed Project, under Alternative 5, Haul Route Alternative, the Proposed Project site will not be available for mining operations during sediment removal and reservoir management activities; however, sediment excavation is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will not result in any potentially significant impacts to availability of a locally important mineral resource recovery site.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to any other alternative.

NOISE & VIBRATION

NOISE-1 *Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Sediment Removal/Reservoir Management

Onsite Construction Equipment Noise

Alternative 5, Haul Route Alternative sediment removal activities will take place Monday through Friday between 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Reservoir management activities will take place under the same hours Monday through Friday, with no activities on Saturday. This alternative will use the same amount and type of construction equipment as the Proposed Project. Since the removal of sediment activities will require a greater amount of equipment than the reservoir management activities, calculations for onsite construction equipment noise have been based on the sediment removal activities equipment list.

Noise impacts from onsite construction equipment activities associated with Alternative 5, Haul Route Alternative will be a function of the noise generated by construction equipment, equipment location, and sensitivity of nearby land uses, and the timing and duration of the construction activities. Construction noise impacts will be the same as those associated with the Proposed Project to the nearby sensitive receptors and are shown below in Table 4.8-1.

Table 4.8-1: Alternative 5 Onsite Construction Equipment Noise Levels at Nearby Sensitive Receptors

Receptor Description	Receptor Jurisdiction	Distance to Receptor (feet)	Construction Noise Levels ¹	
			dBA Leq	dBA L _{max}
Single-Family Home	Pasadena	140	71	73
Single-Family Home	Los Angeles County	180	69	71
JPL Office	La Cañada Flintridge	200	68	70
Hahamongna Watershed Park	Pasadena	20	86	90
La Cañada High School	La Cañada Flintridge	430	63	63
La Cañada Methodist Church	La Cañada Flintridge	500	62	62

Notes:

¹ L_{max} is based on the maximum noise from the loudest piece of equipment and the Leq is the average noise from all equipment.
Source: RCNM, Federal Highway Administration, 2006

Table 4.8-1, above, shows that construction noise impacts will range from 62 dBA Leq to 86 dBA Leq at the nearby receptors, with the highest noise levels occurring at the portion of Hahamongna Watershed Park that is adjacent to the west side of the reservoir.

The City of Pasadena exempts public agencies from the Municipal Code noise requirements. The County of Los Angeles exempts flood control maintenance and construction operations from noise restrictions.

The City of La Cañada Flintridge does not provide maximum noise thresholds of construction noise that occurs during the allowed times between Monday through Friday of 7:00 a.m. to 6:00 p.m. Standard Time and 7:00 a.m. to 7:00 p.m. Daylight Savings Time and on Saturday between 7:00 a.m. and 5:00 p.m. Therefore, Alternative 5, Haul Route Alternative will comply with all local ordinances due to sediment removal and reservoir management activities taking place during the allowed hours.

Offsite Vehicular Noise

Alternative 5, Haul Route Alternative sediment removal and reservoir management activities will generate the same daily haul truck trips as the Proposed Project. Therefore, potential impacts from offsite traffic noise created by the offsite vehicle trips for Alternative 5, Haul Route Alternative will be the same as those generated from the Proposed Project. Overall, as with the Proposed Project, roadway noise impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will comply with all local noise ordinances, and roadway noise impacts will be less than significant.

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 associated with noise levels due to similar timeframe for sediment removal.

Due to the longer timeframe for sediment removal, Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

Due to having a shorter time frame than Alternative 4, Sluicing, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-2 *Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Sediment Removal/Reservoir Management

As with the Proposed Project, only the nearby single-family homes in the City of Pasadena would experience vibration levels that would exceed the 0.01-inch-per-second vibration standard. This potentially significant impact will be reduced to less than significant through implementation of Mitigation Measure MM N-1.

Mitigation Measures

MM N-1: LACFGD 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.

Residual Impacts After Mitigation

Through implementation of Mitigation Measure MM N-1, the onsite construction equipment vibration impacts to nearby sensitive receptors would be reduced to less than significant.

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 associated with noise levels due to similar timeframe for sediment removal.

Due to the longer timeframe for sediment removal, Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

Due to having a shorter time frame than Alternative 4, Sluicing, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

NOISE-3 *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Sediment Removal/Reservoir Management

Alternative 5, Haul Route Alternative will not create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing noise levels. For this analysis, both the sediment removal activities and reservoir management activities have been considered as temporary activities, since they would occur only for limited durations of time. The construction activities associated with the removal of the sediment may create temporary onsite noise impacts from the operation of construction equipment as well offsite noise impacts from the use of haul trucks to export material offsite.

Onsite Construction Equipment Noise

As with the Proposed Project, the onsite equipment that will be operated under Alternative 5, Haul Route Alternative will not conflict with any construction noise standards. Any temporary noise level increase from onsite construction noise will be less than significant. Therefore, Alternative 5, Haul Route Alternative potential onsite construction noise levels will be the same as those generated from the Proposed Project.

Offsite Vehicular Noise

As with the Proposed Project, the offsite vehicular trips associated with Alternative 5, Haul Route Alternative include locations that do not already exceed the standards for existing conditions. The analysis also found that for the locations that currently exceed the normally acceptable noise standard, Alternative 5, Haul Route Alternative noise contribution to these roadway segments will be within the Federal Transit Administration's allowable noise exposure increase levels. Therefore, the temporary noise level increase created from offsite vehicular noise impacts will result in a less than significant impact. Potential impacts from offsite vehicular noise from Alternative 5, Haul Route Alternative will be the same as those generated from the Proposed Project.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Temporary noise level increase from onsite construction noise and offsite vehicular noise would be less than significant.

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 associated with noise levels due to the same amount of equipment used for onsite and offsite trucking.

Due to a longer timeframe for removing the material, Alternative 5, Haul Route Alternative will be environmentally inferior to all the other alternatives. 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 and impacts downstream associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

RECREATION/PUBLIC SERVICES

RECREATION-1 *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Alternative 5, Haul Route Alternative will not result in the construction of new residences, or facilitate the development of residences, or result in an increase in area population. Therefore, implementation of the Alternative 5, Haul Route Alternative will not result in increased use or the physical deterioration associated with increased use for neighborhood or regional parks or other recreational facilities due to any increases in area population.

Sediment Removal Impacts

As with the Proposed Project, under Alternative 5, Haul Route Alternative sediment removal will occur over the course of five years. During this, most of the Proposed Project site will be closed to public use from the dam face to the edge of this Alternative's excavation limit boundaries (see Figure 2.5-1). Alternative 5, Haul Route Alternative will have a potential impact on recreational opportunities through temporarily restricted access to trails and long-term alteration of the landscape. Maintenance roads within the basin are used by the LACFCD, Southern California Edison (SCE), and the City of Pasadena, among others, for operations and maintenance of Devil's Gate Reservoir and other facilities in the area. The majority of the maintenance roads will be closed during sediment removal; however, these roads are not officially designated for recreational uses and are often not available for unofficial recreation use due to reservoir water levels or maintenance activities.

Designated Recreational Uses

Implementation of sediment removal will result in temporarily restricted access to portions of designated trails and indirect impacts to existing recreation uses associated with construction activities. These impacts may increase the use of other area parks and recreational facilities such as those described in Table 3.15-1, Area Recreational Facilities.

The Oak Grove area of Hahamongna Watershed Park and the associated facilities, including Oak Grove Disk Golf Course, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Sediment removal activities will not limit the use of the Oak Grove area of Hahamongna Watershed Park by individuals or by organizations such as the Oak Grove Disc Golf Club, the Rose Bowl Riders, MACH 1, or the Tom Sawyer Camp.

Activities such as hiking, biking, horseback riding, bird watching, and nature walks will be limited to trails located outside the excavation boundary or to trails opened in absence of removal activities. Of the six designated trails in and adjacent to the Proposed Project site, three of these trails, Flint Wash Trail, Gabrielino Trail, and Gould Canyon Trail, will remain open during sediment removal and will continue to provide active recreational facilities to the area. Small portions of the Altadena Crest Trail, Arroyo Seco Trail, and West Rim Trail will either be closed when sediment removal activities are under way and/or are near the trail.

Sediment removal activities associated with this alternative will not limit or block access to the Oak Grove area and many of the designated trails and will not result in direct potentially significant impacts to these facilities; however, use of these facilities may be less desirable due to construction-related emissions, noise, dust, visual, and traffic impacts associated with sediment removal. These temporary, indirect impacts will reduce the quality of the recreational experience.

Indirect impacts to recreation associated with sediment removal under Alternative 5, Haul Route Alternative will be the same as for the Proposed Project.

Recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities. Due to the number of other recreational facilities and trails in the vicinity, it is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 5, Haul Route Alternative will not increase use of other existing parks or

recreation facilities such that substantial physical deterioration of these facilities will occur or be accelerated. Impacts to other existing parks and recreation facilities will be temporary and less than significant. Sediment removal under this Alternative would have the same duration as the Proposed Project and would, therefore, have less than significant impacts to other existing parks and recreation facilities.

Reservoir Management Impacts

After the annual proposed reservoir management, access to Devil's Gate Reservoir will be similar to existing conditions. Every year the reservoir will be temporarily closed to public access for reservoir management. This will occur during the late summer/early fall over an estimated five-week period, Monday through Friday. The length of time will vary depending on the amount of sediment deposited in the reservoir over the course of the year. The Oak Grove area of Hahamongna Park and most of the designated trails will remain open during reservoir management activities and will continue to provide active recreational facilities to the area. The proposed reservoir management activities will typically occur only during the weekdays; therefore, weekend visitors of the Hahamongna Watershed Park will not be affected by the proposed reservoir management activities. Trails will be beneficially affected in the long-term through the reduction of potential disruption by flooding and/or being buried under sediment. Impacts to existing parks and recreation facilities associated with reservoir management activities under Alternative 5, Haul Route Alternative will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will not result in any potentially significant impacts associated with increased use of other existing parks or recreation facilities.

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 recreation uses.

Due to the larger acreage of sediment 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.

Due to Alternative 5, Haul Route Alternative having a shorter duration in sediment removal activities, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

RECREATION-2 *Require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment.*

As discussed in detail above under RECREATION-1, recreational users may choose to visit other area parks, recreational facilities, or trails due to the temporary access restrictions or the indirect effects of construction-related activities during reservoir management activities. It is anticipated that these visitors will be dispersed throughout the area and that no single park or facility will experience a substantial increase in use. Therefore, Alternative 5, Haul Route Alternative will not require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment, resulting in a less than significant impact. Sediment removal under this Alternative would have the same duration as the Proposed Project and, therefore, would result in less than significant impacts to other existing parks and recreation facilities.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Due to the larger acreage of sediment 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.

Due to the shorter timeframe, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

PUBLIC SERVICES-1 *Result in substantial adverse impacts associated with the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.*

As discussed in detail above under RECREATION-2, Alternative 5, Haul Route Alternative will not result in a substantial increase in use of any one park or facility. Therefore, the Proposed Project will not require the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Due to the larger acreage of sediment 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.

Due to the shorter timeframe of sediment removal activities, Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 4, Sluicing.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

TRANSPORTATION & TRAFFIC

TRANSPORTATION-1 *Conflict with an applicable plan, ordinance, or policy establishing measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Sediment Removal/Reservoir Management

Truck traffic associated with the Alternative 5, Haul Route Alternative is expected to adhere to traffic regulations; however, during sediment removal, truck traffic is expected to impact traffic LOS on the existing roadway network. Potential impacts regarding existing LOS are discussed under TRANSPORTATION-2 below. This increase in traffic would result in temporary significant impacts to the efficiency of the circulation system. Implementation of Mitigation Measures MM TRA-1 and TRA-2 would reduce this impact but not to a level of less than significant.

Sediment removal and associated transportation under this Alternative could potentially have the same duration as the Proposed Project. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that

the measures will be implemented. Therefore, this temporary impact could remain potentially significant.

Reservoir Management

Truck traffic associated with reservoir management is not expected to adversely affect traffic LOS on the existing roadway network. Therefore, impacts to the efficiency of the circulation system would be less than significant.

Mitigation Measures

MM TRA-1: Proposed Project haul trucks will not deliver to the Vulcan Material Reliance Facility during the PM peak period.

MM TRA-2: Proposed Project haul trucks will not deliver to the Boulevard Pit during the PM peak period.

Residual Impacts after Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce impacts to traffic and circulation but not to a level of less than significant. Other potential impact reduction measures discussed under TRANSPORTATION-2, below, could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, this temporary impact could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered environmentally superior to the Proposed Project because the Alternative will result in less than significant intersection impacts.

Due to the alternate haul route, Alternative 5, Haul Route Alternative will also be environmentally superior to all the other alternatives except Alternative 6, No Project Alternative.

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 traffic impacts associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

TRANSPORTATION-2 *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

This Alternative analyzes the use of alternative routes for some of the segments of the sediment disposal truck routes. Table 4.8-2 presents the streets to be used for these haul routes.

Table 4.8-2: Alternative Haul Route Streets

Alternative Haul Routes	Streets To Be Used
To/From Devil's Gate Reservoir to eastern disposal sites, Option 1	<ul style="list-style-type: none"> ▪ Exit WB I-210 at Windsor Avenue/Arroyo Boulevard ▪ Turn right onto EB Windsor Avenue and then left onto NB Oak Grove Drive ▪ Enter and exit the project site on Oak Grove Drive ▪ Turn left onto SB Oak Grove Drive and then right onto WB Windsor Avenue ▪ Enter EB I-210 at Windsor Avenue/Arroyo Boulevard
To/From Devil's Gate Reservoir to eastern disposal sites, Option 2	<ul style="list-style-type: none"> ▪ Exit WB I-210 at Berkshire Place ▪ Turn right onto EB Berkshire Place and then right onto SB Oak Grove Drive ▪ Enter and exit the project site on Oak Grove Drive ▪ Turn right onto NB Oak Grove Drive and then left onto WB Berkshire Place ▪ Enter EB I-210 at Berkshire Place
To/From Devil's Gate Reservoir Area to western disposal sites, Option 1	<ul style="list-style-type: none"> ▪ Exit EB I-210 at Windsor Avenue/Arroyo Boulevard ▪ Turn right onto EB Windsor Avenue and then left onto NB Oak Grove Drive ▪ Enter and exit the project site on Oak Grove Drive ▪ Turn left onto SB Oak Grove Drive and then right onto WB Windsor Avenue ▪ Enter WB I-210 at Windsor Avenue/Arroyo Boulevard
To/From Devil's Gate Reservoir Area to western disposal sites, Option 2	<ul style="list-style-type: none"> ▪ Exit EB I-210 at Berkshire Place ▪ Turn left onto EB Berkshire Place and then right onto SB Oak Grove Drive ▪ Enter and exit the project site on Oak Grove Drive ▪ Turn right onto NB Oak Grove Drive and then left onto WB Berkshire Place ▪ Enter WB I-210 at Berkshire Place
To/From Manning Pit	<ul style="list-style-type: none"> ▪ Exit EB I-210 at Irwindale Avenue ▪ Turn right onto SB Irwindale Avenue ▪ Turn left onto EB Gladstone Street and then right onto SB Vincent Avenue ▪ Enter and exit the disposal site on Vincent Avenue ▪ Turn left onto NB Vincent Avenue and then left onto NB Azusa Avenue ▪ Turn right onto EB First Street ▪ Enter WB I-210 at First Street
To/From Scholl Canyon Landfill	<ul style="list-style-type: none"> ▪ Exit EB SR-134 at Figueroa Street ▪ Turn right onto NB Figueroa Street ▪ Enter and exit the disposal site on Scholl Canyon Road ▪ Turn right onto SB Scholl Canyon Road ▪ Enter WB SR-134 at Figueroa Street

Table 4.8-2: Alternative Haul Route Streets

Alternative Haul Routes	Streets To Be Used
To/From Sheldon Pit	<ul style="list-style-type: none"> ▪ Exit WB I-210 at the Wheatland Avenue interchange ▪ Turn right onto NB Wheatland Avenue ▪ Turn right onto EB Foothill Boulevard ▪ Turn right onto WB Wentworth Street ▪ Enter and exit the disposal site on Sheldon Street ▪ Turn left onto EB Sheldon Street ▪ Turn left onto WB Foothill Boulevard ▪ Turn left onto SB Wheatland Avenue ▪ Enter EB I-210 at the left onto SB Wheatland Avenue interchange
To/From Sun Valley Fill Site	<ul style="list-style-type: none"> ▪ Exit WB I-210 at the Wheatland Avenue interchange ▪ Turn right onto NB Wheatland Avenue ▪ Turn right onto EB Foothill Boulevard ▪ Turn right onto WB Wentworth Street ▪ Enter the disposal site on Sheldon Street ▪ Exit the disposal site on Glenoaks Boulevard ▪ Turn right onto NB Glenoaks Boulevard ▪ Turn right onto EB Sheldon Street ▪ Turn left onto WB Foothill Boulevard ▪ Turn left onto SB Wheatland Avenue ▪ Enter EB I-210 at the left onto SB Wheatland Avenue interchange
To/From Bradley Landfill	<ul style="list-style-type: none"> ▪ Exit WB I-210 at the Wheatland Avenue interchange ▪ Turn right onto NB Wheatland Avenue ▪ Turn right onto EB Foothill Boulevard ▪ Turn right onto WB Wentworth Street ▪ Turn left onto SB Glenoaks Boulevard ▪ Turn right onto WB Peoria Street ▪ Enter and exit the disposal site on Peoria Street ▪ Turn left onto EB Peoria Street ▪ Turn left onto NB Glenoaks Boulevard ▪ Turn right onto EB Sheldon Street ▪ Turn left onto WB Foothill Boulevard ▪ Turn left onto SB Wheatland Avenue ▪ Enter EB I-210 at the left onto SB Wheatland Avenue interchange
To/From Boulevard Pit	<ul style="list-style-type: none"> ▪ Exit the SB I-5 at Osborne Street ▪ Turn left onto EB Osborne Street ▪ Turn right onto SB Laurel Canyon Boulevard ▪ Turn left onto EB Branford Street ▪ Enter and exit the disposal site on Branford Street ▪ Turn left onto WB Branford Street ▪ Turn right onto NB Laurel Canyon Boulevard ▪ Turn left onto WB Osborne Street ▪ Enter the NB I-5 at Osborne Street

Devil's Gate Reservoir to/from I-210 (eastern disposal sites)

Option 1 Haul Route

Table 4.8-3 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the reservoir and I-210, for Option 1 haul route toward the eastern disposal sites. Table 4.8-4: Alternative Haul Route to I-210 to Eastern Disposal Sites, Option 1 AM Peak Hour shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM peak period. All the intersections between the reservoir and I-210 toward the eastern disposal sites using the Option 1 haul route are anticipated to continue to operate at LOS C or better for all utilized intersections throughout the day.

Use of this alternative route would require implementation of the following potential impact reduction measure:

- The median on Oak Grove Drive would be restriped to a Two Way Left Turn Lane (TWLTL). Trucks exiting the Devil's Gate Reservoir driveway will cross the two lanes of oncoming westbound traffic on Oak Grove Drive and utilize the TWLTL if necessary to merge into the eastbound traffic. The changes to Oak Grove Drive would require the approval of the City of Pasadena.

The addition of the TWLTL for the impact reduction measure discussed above cannot be legally imposed by the LACFCD since the location is under the jurisdiction of the City of Pasadena. Every reasonable effort will be made to coordinate with and receive approval to implement this impact reduction measure; however, LACFCD cannot guarantee that this impact reduction measure will be implemented and cannot guarantee that these alternative haul routes can be used.

Table 4.8-3: Alternative Haul Route to I-210 to Eastern Disposal Sites, Option 1

Intersection #/Name	AM				MID-DAY (12-2 PM)				MID-DAY (2-4 PM)				PM											
	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU
4	Oak Grove Drive and Foothill Freeway Overpass (3)	C	21.0	-	-	A	9.9	-	-	A	9.8	-	-	B	12.0	-	-							
5	Windsor Avenue and Oak Grove Drive/Woodbury Road	C	34.6	0.94	D	B	14.4	0.59	A	B	17.1	0.58	A	C	24.7	0.76	C							
6	Windsor Avenue/Arroyo Boulevard and I-210 westbound ramps	B	10.8	0.68	B	A	6.8	0.37	A	A	6.9	0.37	A	A	8.3	0.48	B							
7	Windsor Avenue/Arroyo Boulevard and I-210 eastbound ramps	C	23.7	0.39	A	C	30.9	0.42	A	C	28.4	0.42	A	C	28.5	0.62	A							

Table 4.8-4: Alternative Haul Route to I-210 to Eastern Disposal Sites AM Peak Hour, Option 1

Intersection #/Name	Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project and Impact Reduction Measure*		Year 2014 with Project and Mitigation		Potentially Significant Impact	
	HCM V/C	HCM LOS	HCM V/C	HCM LOS		Potentially Significant Impact	HCM V/C	HCM LOS	HCM V/C		HCM LOS
4	Oak Grove Drive and Foothill Freeway Overpass (3)	-	B	-	C	NO	-	C	NMR**	NMR**	NO
5	Windsor Avenue and Oak Grove Drive/Woodbury Road	0.87	C	0.86	C	NO	0.94	C	NMR**	NMR**	NO
6	Windsor Avenue/Arroyo Boulevard and I-210 westbound ramps	0.53	A	0.60	A	NO	0.68	B	NMR**	NMR**	NO
7	Windsor Avenue/Arroyo Boulevard and I-210 eastbound ramps	0.49	C	0.53	C	NO	0.39	C	NMR**	NMR**	NO

* Use of this alternative route would require implementation of the impact reduction measure discussed above.

Table 4.8-4: Alternative Haul Route to I-210 to Eastern Disposal Sites AM Peak Hour, Option 1

AM Peak Hour	Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project and Impact Reduction Measure*		Year 2014 with Project and Mitigation		
Intersection #/Name	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Potentially Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Potentially Significant Impact

**No mitigation required.

Option 2 Haul Route

Table 4.8-5 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the reservoir and I-210, for Option 2 haul route toward the eastern disposal sites.

Table 4.8-6: Alternative Haul Route to I-210 to Eastern Disposal Sites, Option 2 AM Peak Hour shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM peak period.

All the intersections between the reservoir and I-210 toward the eastern disposal sites using Berkshire Place are anticipated to continue to operate at an LOS C or better for all utilized intersections during the MID-DAY and PM peak periods. Therefore, no significant impacts will occur at these intersections during the MID-DAY and PM peak periods. The Berkshire Place and I-210 eastbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM peak hour, resulting in a temporary significant impact.

Use of this alternative route would require implementation of the following potential impact reduction measure:

- The median on Oak Grove Drive would be restriped to a Two Way Left Turn Lane (TWLTL). Trucks traveling eastbound on Oak Grove Drive and entering the Devil's Gate Reservoir east side driveway will utilize the TWLTL if necessary to turn left. The changes to Oak Grove Drive would require the approval of the City of Pasadena.

The addition of the TWLTL for the impact reduction measure discussed above cannot be legally imposed by the LACFCD since the location is under the jurisdiction of the City of Pasadena. Every reasonable effort will be made to coordinate with and receive approval to implement this impact reduction measure; however, LACFCD cannot guarantee that this impact reduction measure will be implemented and cannot guarantee that these alternative haul routes can be used.

Table 4.8-5: Alternative Haul Route to I-210 to Eastern Disposal Sites, Option 2

Intersection #/Name	AM				MID-DAY (12-2 PM)				MID-DAY (2-4 PM)				PM											
	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU
1	Berkshire Place and I-210 eastbound ramps	F	51.4	-	-	B	10.8	-	-	C	23.7	-	-	D	31.6	-	-							
2	Berkshire Place and I-210 westbound ramps	B	13.1	-	-	A	7.0	-	-	A	9.3	-	-	A	5.6	-	-							
3	Oak Grove Drive and Berkshire Place	C	26.6	0.97	B	A	6.2	0.30	A	A	7.1	0.49	A	A	8.4	0.57	B							

Table 4.8-6: Alternative Haul Route to I-210 to Eastern Disposal Sites AM Peak Hour, Option 2

AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Potentially Significant Impact
Intersection #/Name	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Potentially Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS		
1	Berkshire Place and I-210 eastbound ramps	-	D	-	E	YES	-	F	N/A*	N/A*	YES
2	Berkshire Place and I-210 westbound ramps	-	A	-	A	NO	-	B	NMR**	NMR**	NO
3	Oak Grove Drive and Berkshire Place	0.50	A	0.67	A	NO	0.97	C	NMR**	NMR**	NO

* No mitigation available.

**No mitigation required.

Devil's Gate Reservoir to/from I-210 (western disposal sites)

Option 1 Haul Route

Table 4.8-7 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the reservoir and I-210, for Option 1 haul route toward the western disposal sites.

Table 4.8-8 shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM peak period. All the intersections between the reservoir and I-210 toward the eastern disposal sites using the Option 1 haul route are anticipated to continue to operate at LOS D or better for all utilized intersections throughout the day. Therefore, no significant impacts will occur at these intersections.

Table 4.8-7: Alternative Haul Route to I-210 to Western Disposal Sites, Option 1

Intersection #/Name	AM				MID-DAY (12-2 PM)				MID-DAY (2-4 PM)				PM											
	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU	LOS	HCM	Delay	HCM	V/C	HCM	LOS	ICU
4	Oak Grove Drive and Foothill Freeway Overpass (3)	C	21	-	-	A	9.9	-	-	A	9.8	-	-	B	12	-	-							
5	Windsor Avenue and Oak Grove Drive/Woodbury Road	C	34.6	0.94	D	B	14.4	0.59	A	B	17.1	0.58	A	C	24.7	0.76	C							
6	Windsor Avenue/Arroyo Boulevard and I-210 westbound ramps	A	9.9	0.62	B	A	5.5	0.31	A	A	5.6	0.27	A	A	7.9	0.47	B							
7	Windsor Avenue/Arroyo Boulevard and I-210 eastbound ramps	C	28.6	0.57	A	B	16.1	0.39	A	B	17.4	0.42	A	C	26.8	0.63	A							

Table 4.8-8: Alternative Haul Route to I-210 to Western Disposal Sites AM Peak Hour, Option 1

Intersection #/Name	Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project and Impact Reduction Measure*		Year 2014 with Project and Mitigation		Potentially Significant Impact	
	HCM V/C	HCM LOS	HCM V/C	HCM LOS		HCM V/C	HCM LOS	HCM V/C	HCM LOS		
4	Oak Grove Drive and Foothill Freeway Overpass (3)	-	B	-	C	NO	-	C	NMR**	NMR**	NO
5	Windsor Avenue and Oak Grove Drive/Woodbury Road	0.87	C	0.86	C	NO	0.94	C	NMR**	NMR**	NO
6	Windsor Avenue/Arroyo Boulevard and I-210 westbound ramps	0.53	A	0.56	A	NO	0.62	A	NMR**	NMR**	NO
7	Windsor Avenue/Arroyo Boulevard and I-210 eastbound ramps	0.49	C	0.53	C	NO	0.57	C	NMR**	NMR**	NO

* Use of this alternative route would require implementation of the impact reduction measure discussed above.

**No mitigation required.

Option 2 Haul Route

Table 4.8-9 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the reservoir and I-210 Option 2 haul route toward the western disposal sites.

Table 4.8-10: Alternative Haul Route to I-210 to Western Disposal Sites, Option 2 AM Peak Hour shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM peak period.

All the intersections between the reservoir and I-210 toward the western disposal sites using Berkshire Place are anticipated to continue to operate at an LOS C or better for all utilized intersections during the MID-DAY and PM peak periods. Therefore, no significant impacts will occur at these intersections during the MID-DAY and PM peak periods. The Berkshire Place and I-210 eastbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM peak hour, resulting in a temporary significant impact.

Use of this alternative route would require implementation of the following potential impact reduction measure:

- The median on Oak Grove Drive would be restriped to a Two Way Left Turn Lane (TWLTL). Trucks traveling eastbound on Oak Grove Drive and entering the Devil's Gate Reservoir east side driveway will utilize the TWLTL if necessary to turn left. The changes to Oak Grove Drive would require the approval of the City of Pasadena.

The addition of the TWLTL for the impact reduction measure discussed above cannot be legally imposed by the LACFCD since the location is under the jurisdiction of the City of Pasadena. Every reasonable effort will be made to coordinate with and receive approval to implement this impact reduction measure; however, LACFCD cannot guarantee that this impact reduction measure will be implemented and cannot guarantee that these alternative haul routes can be used.

Table 4.8-9: Alternative Haul Route to I-210 to Western Disposal Sites, Option 2

Intersection #/Name	AM					MID-DAY (12-2 PM)					MID-DAY (2-4 PM)					PM						
	LOS	HCM	Delay	HCM	V/C	LOS	HCM	Delay	HCM	V/C	LOS	HCM	Delay	HCM	V/C	LOS	HCM	Delay	HCM	V/C	LOS	ICU
2 Berkshire Place and I-210 westbound ramps	B		11.0	-	-	A		4.7	-	-	A		6.9	-	-	A		3.7	-	-		
1 Berkshire Place and I-210 eastbound ramps	E		48.2	-	-	B		10.6	-	-	C		18.9	-	-	C		21.8	-	-		
3 Oak Grove Drive and Berkshire Place	C		26.6	0.97	B	A		6.2	0.30	A	A		7.1	0.49	A	A		8.4	0.57		B	

Table 4.8-10: Alternative Haul Route to I-210 to Western Disposal Sites AM Peak Hour, Option 2

AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Potentially Significant Impact
		HCM V/C	HCM LOS	HCM V/C	HCM LOS		HCM V/C	HCM LOS	HCM V/C	HCM LOS	
2	Berkshire Place and I-210 westbound ramps	-	A	-	A	NO-	-	B	NMR**	NMR**	NO
1	Berkshire Place and I-210 eastbound ramps	-	A	-	E	YES	-	E	NMR*	NMR*	YES
3	Oak Grove Drive and Berkshire Place	0.50	A	0.67	A	NO	0.97	c	NMR**	NMR**	NO

* No mitigation available.

**No mitigation required.

Manning Pit Area to/from I-210

Table 4.8-11 shows the LOS for Proposed Project traffic at year 2014 for the intersections between Manning Pit and I-210. Table 4.8-12, Table 4.8-13, and Table 4.8-14 show the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM, Mid-Day, and PM peak periods respectively. The Arrow Highway/Lark Ellen Avenue intersection is anticipated to operate at an unacceptable LOS during the AM, Mid-Day, and PM peak periods, resulting in a temporary significant impact. The Arrow Highway/Enid Avenue intersection, Azusa Avenue/Arrow Highway, Azusa Avenue/Gladstone Street, and First Street and Alameda Street/I-210 Westbound Ramps are anticipated to operate at an unacceptable LOS during the AM peak hour, resulting in a temporary significant impact. The Arrow Highway/Enid Avenue intersection is anticipated to operate at an unacceptable LOS during the Mid-Day peak hour, resulting in a temporary significant impact. The Arrow Highway/Enid Avenue intersection and Azusa Avenue/Arrow Highway are anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact.

Table 4.8-11: Alternative Haul Route to Manning Pit Area

Intersection		AM				MID-DAY				PM			
Intersection #/Name		HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS
9	Irwindale Avenue and I-210 eastbound ramps	C	27.9	0.93	C	C	22.2	0.79	C	C	26.9	0.91	D
10	Irwindale Avenue and First Street	B	13.8	0.65	B	B	18.5	0.65	B	D	50.3	0.93	C
11	Irwindale Avenue and Gladstone Street	C	31.9	0.91	D	B	15.2	0.67	B	C	27.6	0.95	D
12	Vincent Avenue and Gladstone Street	B	12.6	0.74	B	A	8.7	0.38	A	B	14.2	0.72	C
13	Vincent Avenue and Arrow Highway	B	17.5	0.90	D	A	9.8	0.45	A	B	15.4	0.93	D
14	Arrow Highway and Lark Ellen Avenue	E	61.5	0.97	D	D	40.3	0.72	B	E	55.4	0.94	E
15	Arrow Highway and Enid Avenue	D	55.0	1.35	E	B	12.8	0.50	A	B	14.4	0.70	C
16	Azusa Avenue and Arrow Highway	E	63.8	1.15	D	E	55.4	0.96	D	E	58.4	1.04	E
17	Azusa Avenue and Gladstone Street	E	61.5	1.01	D	D	38.3	0.91	C	D	38.0	0.87	D
18	Azusa Avenue and I-210 Eastbound Ramps	B	12.1	0.71	A	B	11.7	0.75	A	B	10.3	0.65	A
19	Azusa Avenue and First Street	D	46.2	0.87	D	B	16.3	0.57	A	B	18.9	0.69	B
20	First Street and Alameda Street/I-210 Westbound Ramps	E	69.2	1.40	E	B	11.6	0.63	B	B	17.1	0.87	C

(*) F*- ICU LOS Exceeds LOS F

Table 4.8-12: Alternative Haul Route to Manning Pit Area to/from I-210, AM Peak Period

Intersection AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
Intersection #/Name		HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS	
9	Irwindale Avenue and I-210 Eastbound Ramps	0.84	C	0.85	C	NO	0.93	C	NMR*	NMR*	NO
10	Irwindale Avenue and First Street	0.60	B	0.64	B	NO	0.65	B	NMR*	NMR*	NO
11	Irwindale Avenue and Gladstone Street	0.81	C	0.88	C	NO	0.91	C	NMR*	NMR*	NO
12	Vincent Avenue and Gladstone Street	0.61	B	0.63	B	NO	0.74	B	NMR*	NMR*	NO

Table 4.8-12: Alternative Haul Route to Manning Pit Area to/from I-210, AM Peak Period

Intersection AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
Intersection #/Name		HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS	
13	Vincent Avenue and Arrow Highway	0.77	B	0.80	B	NO	0.90	B	NMR*	NMR*	NO
14	Arrow Highway and Lark Ellen Avenue	0.88	D	0.88	D	NO	0.97	E	N/A**	N/A**	YES
15	Arrow Highway and Enid Avenue	1.00	C	1.08	C	NO	1.35	D	NMR*	NMR*	NO
16	Azusa Avenue and Arrow Highway	0.95	D	1.04	D	NO	1.15	E	N/A**	N/A**	YES
17	Azusa Avenue and Gladstone Street	0.89	D	0.93	D	NO	1.01	E	N/A**	N/A**	YES
18	Azusa Avenue and I-210 Eastbound Ramps	0.63	A	0.64	B	NO	0.71	B	NMR*	NMR*	NO
19	Azusa Avenue and First Street	0.82	C	0.84	D	NO	0.87	D	NMR*	NMR*	NO
20	First Street and Alameda Street/I-210 Westbound Ramps	1.13	D	1.19	D	NO	1.40	E	N/A**	N/A**	YES

*No mitigation required.

** No mitigation available.

Table 4.8-13: Alternative Haul Route to Manning Pit Area to/from I-210, Mid-Day Peak Period

Intersection Mid-Day Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
Intersection #/Name	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS		
9	Irwindale Avenue and I-210 Eastbound Ramps	0.71	B	0.72	B	NO	0.79	C	NMR*	NMR*	NO
10	Irwindale Avenue and First Street	0.60	B	0.60	B	NO	0.65	B	NMR*	NMR*	NO
11	Irwindale Avenue and Gladstone Street	0.51	B	0.57	B	NO	0.67	B	NMR*	NMR*	NO
12	Vincent Avenue and Gladstone Street	0.30	A	0.31	A	NO	0.38	A	NMR*	NMR*	NO
13	Vincent Avenue and Arrow Highway	0.36	A	0.40	A	NO	0.45	A	NMR*	NMR*	NO
14	Arrow Highway and Lark Ellen Avenue	0.62	C	0.67	C	NO	0.72	D	NMR*	NMR*	NO
15	Arrow Highway and Enid Avenue	0.43	B	0.48	B	NO	0.50	B	NMR*	NMR*	NO
16	Azusa Avenue and Arrow Highway	0.91	D	0.95	D	NO	0.96	E	N/A**	N/A**	YES
17	Azusa Avenue and Gladstone Street	0.75	C	0.79	C	NO	0.91	D	NMR*	NMR*	NO
18	Azusa Avenue and I-210 Eastbound Ramps	0.63	A	0.67	A	NO	0.75	B	NMR*	NMR*	NO
19	Azusa Avenue and First Street	0.53	B	0.53	B	NO	0.57	B	NMR*	NMR*	NO
20	First Street and Alameda Street/I-210 Westbound Ramps	0.54	B	0.56	B	NO	0.63	B	NMR*	NMR*	NO

*No mitigation required.

** No mitigation available.

Table 4.8-14: Alternative Haul Route to Manning Pit Area to/from I-210, PM Peak Period

Intersection PM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
Intersection #/Name	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS		
9	Irwindale Avenue and I-210 Eastbound Ramps	0.83	C	0.84	C	NO	0.91	C	NMR*	NMR*	NO
10	Irwindale Avenue and First Street	0.69	B	0.69	C	NO	0.93	D	NMR*	NMR*	NO
11	Irwindale Avenue and Gladstone Street	0.84	B	0.88	C	NO	0.95	C	NMR*	NMR*	NO
12	Vincent Avenue and Gladstone Street	0.57	B	0.60	B	NO	0.72	B	NMR*	NMR*	NO
13	Vincent Avenue and Arrow Highway	0.73	B	0.77	B	NO	0.93	B	NMR*	NMR*	NO
14	Arrow Highway and Lark Ellen Avenue	0.79	D	0.82	D	NO	0.94	E	N/A**	N/A**	YES
15	Arrow Highway and Enid Avenue	0.64	B	0.68	B	NO	0.70	B	NMR*	NMR*	NO
16	Azusa Avenue and Arrow Highway	0.94	D	0.96	D	NO	1.04	E	N/A**	N/A**	YES
17	Azusa Avenue and Gladstone Street	0.77	C	0.85	C	NO	0.87	D	NMR*	NMR*	NO
18	Azusa Avenue and I-210 Eastbound Ramps	0.58	A	0.59	A	NO	0.65	B	NMR*	NMR*	NO
19	Azusa Avenue and First Street	0.64	B	0.64	B	NO	0.69	B	NMR*	NMR*	NO
20	First Street and Alameda Street/I-210 Westbound Ramps	0.78	B	0.82	B	NO	0.87	B	NMR*	NMR*	NO

*No mitigation required.

** No mitigation available.

Waste Management to/from I-210

The route to the Waste Management Facility would be the same as for the Proposed Project. All the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections throughout the day. Therefore, no significant impacts will occur at these intersections.

Vulcan Material Reliance Facility to/from I-210

The route to the Vulcan Material Reliance Facility would be the same as for the Proposed Project. All the intersections are anticipated to continue to operate at an LOS D or better for all utilized intersections during the AM and MID-Day peak periods. Therefore, no significant impacts will occur at these intersections during these time periods. The Irwindale Avenue/Foothill Boulevard intersection is anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact. Implementation of Mitigation Measure MM TRA-1 would reduce the impact to the Irwindale Avenue/Foothill Boulevard intersection to less than significant.

Scholl Canyon Landfill to/from SR-134

Table 4.8-15 shows the LOS for Proposed Project traffic at Year 2014 for the intersections between Scholl Canyon Landfill and SR-134. All the intersections are anticipated to continue to operate at an LOS B or better for all utilized intersections during the MID-DAY peak period. Therefore, no significant impacts will occur at these intersections during the MID-DAY peak period.

The Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection is anticipated to operate at an unacceptable LOS during the AM and PM peak hours, resulting in a temporary significant impact. Reducing this impact to less than significant would require implementation of the following potential impact reduction measure:

- Figueroa Street/Scholl Canyon Road and SR-134 westbound ramps: Restripe the westbound right turn lane to a shared left-right turn lane and the northbound through lane to a shared through-right turn lane. The northbound direction will include a shared through-right turn lane and a right turn lane. The southbound direction will include a shared through-left turn lane and a through turn lane. The westbound direction will include a left turn lane and a shared left-right turn lane. This impact reduction measure will require the approval of the City of Los Angeles and Caltrans.

Table 4.8-16 and Table 4.8-17 show the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM and PM peak periods, respectively. As shown in these tables, implementation of the impact reduction measure discussed above would reduce the impact to the Figueroa St/Scholl Canyon Road and SR-134 westbound ramps intersection to less than significant.

This impact reduction measure cannot be legally imposed by the LACFCD. Every reasonable effort will be made to coordinate with and receive approval to implement the impact reduction measure; however, LACFCD cannot guarantee that the measure will be implemented therefore this temporary impact could remain significant.

Table 4.8-15: Alternative Haul Route to Scholl Canyon Landfill

Intersection		AM				MID-DAY (12-2 PM)				PM			
Intersection #/Name		HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS
21	Figueroa St/Scholl Canyon Road and SR-134 westbound ramps	E	41.3	-	-	B	14.3	-	-	F	53.8	-	-
	With Lane Modification	C	17.6	-	-	B	12.9	-	-	D	28.3	-	-
22	Figueroa Street and Eagle Vista Drive	B	14.2	-	-	B	12.8	-	-	C	22.9	-	-
23	Figueroa Street and SR-134 eastbound ramps	A	8.1	0.54	B	A	7.1	0.37	A	A	8	0.55	B

(*) F*- ICU LOS Exceeds LOS F

Table 4.8-16: Alternative Haul Route to Scholl Canyon Landfill to/from SR-134, AM Peak Hours

Intersection AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Potential Impact Reduction Measure		
Intersection #/Name		HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact
21	Figueroa St/Scholl Canyon Road and SR-134 Westbound Ramps	-	D	-	D	NO	-	E	-	C	NO
22	Figueroa Street and Eagle Vista Drive	-	B	-	B	NO	-	B	NMR*	NMR*	NO
23	Figueroa Street and SR-134 Eastbound Ramps	0.50	A	0.52	A	NO	0.54	A	NMR*	NMR*	NO

*No mitigation required.

Table 4.8-17: Alternative Haul Route to Scholl Canyon Landfill to/from SR-134, PM Peak Hours

Intersection PM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Potential Impact Reduction Measure		Significant Impact
Intersection #/Name	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS		
21	Figueroa St/Scholl Canyon Road and SR-134 westbound ramps	-	D	-	E	YES	-	F	-	D	NO
22	Figueroa Street and Eagle Vista Drive	-	C	-	C	NO	-	C	NMR*	NMR*	NO
23	Figueroa Street and SR-134 eastbound ramps	0.46	A	0.48	A	NO	0.55	A	NMR*	NMR*	NO

*No mitigation required.

Sheldon Pit to/from I-210

Table 4.8-18 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the Sheldon Pit and I-210. Table 4.8-19 shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM peak period. All the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections throughout the day. Therefore, no significant impacts will occur at these intersections.

Table 4.8-18: Alternative Haul Route to Sheldon Pit, Year 2014 with Project Traffic

Intersection		AM				MID-DAY (12-2 PM)				PM			
Intersection # / Name	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	
44	Wheatland Avenue and I-210 Eastbound Ramps	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-
45	Wheatland Avenue and I-210 Westbound Ramps	B	11.1	-	-	A	8.8	-	-	B	10.2	-	-
46	Wheatland Avenue and Foothill Boulevard	B	11.3	0.46	A	B	10.6	0.39	A	B	10.0	0.47	A
47	Wentworth Street and Foothill Boulevard	C	28.4	0.88	A	B	10.4	0.45	A	A	9.7	0.48	A

Table 4.8-19: Alternative Haul Route to Sheldon Pit, AM Peak Hours

Intersection AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
		HCM V/C	HCM LOS	HCM V/C	HCM LOS		Significant Impact	HCM V/C	HCM LOS	HCM V/C	
44	Wheatland Avenue and I-210 Eastbound Ramp	-	A	-	A	NO	-	A	NMR*	NMR*	NO
45	Wheatland Avenue and I-210 Westbound Ramp	-	A	-	B	NO	-	B	NMR*	NMR*	NO
46	Wheatland Avenue and Foothill Boulevard	0.25	A	0.42	B	NO	0.46	B	NMR*	NMR*	NO
47	Wentworth Street and Foothill Boulevard	0.69	B	0.78	B	NO	0.88	C	NMR*	NMR*	NO

*No mitigation required.

Sun Valley Fill Site to/from I-210

Table 4.8-20 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the Sun Valley Fill Site and I-210. Table 4.8-21 shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM PM peak period. All the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections throughout the day. Therefore, no significant impacts will occur at these intersections.

Table 4.8-20: Alternative Haul Route to Sun Valley Fill Site, Year 2014 with Project Traffic

Intersection		AM				MID-DAY (12-2 PM)				PM			
		HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS
30	Glenoaks Boulevard and Sheldon Street	B	17.4	0.92	E	A	8.0	0.54	A	B	15.9	0.89	D
44	Wheatland Avenue and I-210 Eastbound Ramps	A	0	-	-	A	0	-	-	A	0	-	-
45	Wheatland Avenue and I-210 Westbound Ramps	B	11.1	-	-	A	8.8	-	-	B	10.2	-	-
46	Wheatland Avenue and Foothill Boulevard	B	11.3	0.46	A	B	10.6	0.39	A	B	10	0.47	A
47	Wentworth Street and Foothill Boulevard	C	28.4	0.88	A	B	10.4	0.45	A	A	9.7	0.48	A

Table 4.8-21: Alternative Haul Route to Sun Valley Fill Site, AM Peak Hours

Intersection AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
		HCM V/C	HCM LOS	HCM V/C	HCM LOS		HCM V/C	HCM LOS	HCM V/C	HCM LOS	
30	Glenoaks Boulevard and Sheldon Street	0.75	B	0.75	B	NO	0.92	B	NMR*	NMR*	NO
44	Wheatland Avenue and I-210 Eastbound Ramp	-	A	-	A	NO	-	A	NMR*	NMR*	NO
45	Wheatland Avenue and I-210 Westbound Ramp	-	A	-	B	NO	-	B	NMR*	NMR*	NO
46	Wheatland Avenue and Foothill Boulevard	0.25	A	0.42	B	NO	0.46	B	NMR*	NMR*	NO
47	Wentworth Street and Foothill Boulevard	0.69	B	0.78	B	NO	0.88	C	NMR*	NMR*	NO

*No mitigation required.

Bradley Landfill to/from I-210

Table 4.8-22 shows the LOS for Proposed Project traffic at year 2014 for the intersections between the Bradley Landfill and I-210. Table 4.8-23 shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the AM PM peak period. All the intersections are anticipated to continue to operate at an LOS C or better for all utilized intersections throughout the day. Therefore, no significant impacts will occur at these intersections.

Table 4.8-22: Alternative Haul Route to Bradley Landfill, Year 2014 with Project Traffic

Intersection		AM				MID-DAY (12-2 PM)				PM			
		HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS
30	Glenoaks Boulevard and Sheldon Street	B	14.7	0.87	D	A	7.6	0.50	A	B	13.7	0.86	D
31	Glenoaks Boulevard and Peoria Street	A	6.2	0.64	A	A	5.4	0.42	A	A	6.4	0.56	A
44	Wheatland Avenue and I-210 Eastbound Ramps	A	0	-	-	A	0	-	-	A	0	-	-
45	Wheatland Avenue and I-210 Westbound Ramps	B	11.1	-	-	A	8.8	-	-	B	10.2	-	-
46	Wheatland Avenue and Foothill Boulevard	B	11.3	0.46	A	B	10.6	0.39	A	B	10	0.47	A
47	Wentworth Street and Foothill Boulevard	C	28.4	0.88	A	B	10.4	0.45	A	A	9.7	0.48	A

Table 4.8-23: Alternative Haul Route to Bradley Landfill, AM Peak Hours

Intersection AM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		Significant Impact
		HCM V/C	HCM LOS	HCM V/C	HCM LOS		HCM V/C	HCM LOS	HCM V/C	HCM LOS	
30	Glen Oaks Boulevard and Sheldon Street	0.75	B	0.78	B	NO	0.87	B	NMR*	NMR*	NO
31	Glen Oaks Boulevard and Peoria Street	0.54	B	0.61	A	NO	0.64	A	NMR*	NMR*	NO
44	Wheatland Avenue and I-210 Eastbound Ramp	-	A	-	A	NO	-	A	NMR*	NMR*	NO
45	Wheatland Avenue and I-210 Westbound Ramp	-	A	-	B	NO	-	B	NMR*	NMR*	NO
46	Wheatland Avenue and Foothill Boulevard	0.25	A	0.42	B	NO	0.46	B	NMR*	NMR*	NO
47	Wentworth Street and Foothill Boulevard	0.69	B	0.78	B	NO	0.88	C	NMR*	NMR*	NO

*No mitigation required.

Boulevard Pit Area to/from I-5

Table 4.8-24 shows the LOS for Proposed Project traffic at year 2014 for the intersections between Boulevard Pit and I-5. All the intersections are anticipated to continue to operate at an LOS D or better for all utilized intersections during the AM and MID-DAY peak periods. Therefore, no significant impacts will occur at these intersections during the AM and MID-DAY peak periods.

Table 4.8-25 shows the contribution of Proposed Project traffic to existing conditions and year 2014 conditions for the PM peak period respectively. The Osborne Street /Laurel Canyon Boulevard is anticipated to operate at an unacceptable LOS during the PM peak hour, resulting in a temporary significant impact. Mitigation Measure MM TRA-2 would reduce the impacts to less than significant.

Table 4.8-24: LOS for Boulevard Pit (Haul Route 8B), Year 2014 with Project Traffic

Intersection		AM				MID-DAY (12-2 PM)				PM			
Intersection # / Name		HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS	HCM LOS	HCM Delay	HCM V/C	ICU LOS
40	Branford Street and Laurel Canyon Boulevard	C	21.9	1.00	D	B	11.0	0.54	C	D	37.2	1.21	F*
41	Osborne Street and I-5 Southbound Ramps	B	13.7	0.83	D	C	20.9	0.93	B	D	37.0	1.00	E
42	Osborne Street and I-5 Northbound Ramps	B	14.7	0.75	B	B	12.1	0.70	B	B	19.3	0.89	D
43	Osborne Street and Laurel Canyon Boulevard	D	42.3	0.98	E	C	25.2	0.80	D	E	66.3	1.03	F

Table 4.8-25: Boulevard Pit (Haul Route 8B), PM Peak Hours

Intersection PM Peak Hour		Existing Conditions		Existing Plus Project Conditions		Difference with vs. without project	Year 2014 with Project		Year 2014 with Project and Mitigation		
Intersection # / Name		HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact	HCM V/C	HCM LOS	HCM V/C	HCM LOS	Significant Impact
40	Branford Street and Laurel Canyon Boulevard	0.76	B	1.06	C	NO	1.21	D	NPPT*	NPPT*	NO
41	Osborne Street and I-5 Southbound Ramps	0.91	C	0.91	C	NO	1.00	D	NPPT*	NPPT*	NO
42	Osborne Street and I-5 Northbound Ramps	0.83	C	0.83	B	NO	0.89	B	NPPT*	NPPT*	NO
43	Osborne Street and Laurel Canyon Boulevard	1.01	D	0.98	D	NO	1.03	E	NPPT*	NPPT*	NO

*No Proposed Project traffic during PM peak hour with implementation of Mitigation Measure MM TRA-2.

Mitigation Measures

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

Residual Impacts After Mitigation

As with the Proposed Project, Alternative 5, Haul Route Alternative will not significantly impact freeway segments and freeway on- and off-ramps.

With implementation of mitigation measures, as with the Proposed Project, Alternative 5, Haul Route Alternative will not significantly impact the following intersections:

- Irwindale Avenue/Foothill Boulevard intersection during the PM peak hour;
- Sheldon Street and San Fernando Road intersection during the PM peak hour; and

- Branford Street and San Fernando Road intersection during the PM peak hour.

As with the Proposed Project, Alternative 5, Haul Route Alternative will temporarily significantly impact the following intersections:

- Berkshire Place and I-210 eastbound ramps during the AM peak hour (Option 2); and
- Figueroa Street/Scholl Canyon Road and SR-134 westbound ramps during the AM and PM peak hours

In contrast to the Proposed Project, Alternative 5, Haul Route Alternative will impact the following intersection but with mitigation will lower the impact to less than significant:

- Osborne Street /Laurel Canyon Boulevard during the PM peak hour.

In contrast to the Proposed Project, Alternative 5, Haul Route Alternative will temporarily significantly impact the following intersections:

- Arrow Highway/Lark Ellen Avenue during the AM, Mid-Day, and PM peak periods;
- Arrow Highway/Enid Avenue intersection during the AM, Mid-Day, and PM peak hours;
- Azusa Avenue/Arrow Highway during the AM and PM peak hours; and
- First Street and Alameda Street/I-210 Westbound Ramps during the AM peak hour.

In contrast to the Proposed Project, Alternative 5, Haul Route Alternative will not significantly impact:

- Berkshire Place and I-210 eastbound ramps during the AM peak hour (with exception of Option 2); and
- Glenoaks Boulevard/Osborne Street intersection during the AM and PM peak hours.

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Overall, Alternative 5, Haul Route Alternative is considered environmentally superior to the Proposed Project due to alternate haul route and reduction in traffic impacts associated with the route. Alternative 5, Haul Route Alternative is considered environmentally superior to the Proposed Project for the following segments: Devil's Gate Reservoir to I-210 (with exception of Option 2); To/From Sheldon Pit; To/From Sun Valley Fill Site; and To/From Bradley Landfill. Alternative 5, Haul Route Alternative is

considered neither environmentally superior nor inferior to the Proposed Project for the following segments: Devil's Gate Reservoir to I-210 (Option 2 only); To/From Waste Management Facility, To/From Vulcan Materials Reliance Facility, To/From Boulevard Pit, and To/From Scholl Canyon. Alternative 5, Haul Route Alternative is considered environmentally inferior to the Proposed Project for the following segment: To/From Manning Pit.

Due to the reduction in traffic impacts associated with the alternate haul route, Alternative 5, Haul Route Alternative will also be environmentally superior to all the other alternatives except Alternative 4, Sluicing and Alternative 6, No Project Alternative.

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 traffic impacts associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

TRANSPORTATION-3 *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Sediment Removal

Implementation of the Alternative 5, Haul Route Alternative may include impact reduction measures that would require modifications to the existing roadway network. Alternative 5, Haul Route Alternative would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, impacts related to traffic hazards would be less than significant.

Reservoir Management

The reservoir management associated with Alternative 5, Haul Route Alternative would not require any modifications to the existing roadway network and would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project or any of the other alternatives as it would not introduce any new uses that would be incompatible with the existing roadway system.

TRANSPORTATION-4 *Result in inadequate emergency access.*

Sediment Removal/Reservoir Management

Alternative 5, Haul Route Alternative would not sever or otherwise block access to any existing roadways. No equipment staging will occur on public roadways during construction of the Proposed Project. This would be a less than significant impact.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project or any other alternative except for Alternative 6, No Project Alternative.

Alternative 5, Haul Route Alternative will be environmentally superior to Alternative 6, No Project Alternative as the No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

TRANSPORTATION-5 *Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Sediment Removal

Alternative 5, Haul Route Alternative would be confined to the roadway network described in Section 4.8.1, above, and would not adversely affect alternative modes of public transportation such as light rail. Implementation of Alternative 5, Haul Route Alternative would not require closure of any bus stops or disrupt any existing bus routes. The degrading of LOS at intersections, freeway segments, and freeway on- and off-ramps described above under TRANSPORTATION-2 could affect buses using the existing roadway network. This would be a temporary potentially significant impact.

Reservoir Management

The reservoir management associated with Alternative 5, Haul Route Alternative would require periodic management activities at Devil's Gate Reservoir that would not adversely affect traffic level of service on the existing roadway network that could delay bus services. Therefore, reservoir management impacts would be less than significant.

Mitigation Measure

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

Residual Impacts After Mitigation

Potentially significant traffic impacts associated with the sediment removal phase would be temporary, expected to occur during the drier months (from April to December, except on holidays), and would cease at the end of the sediment removal phase. Implementation of the mitigation measures described above would reduce some but not all of the impacts to traffic and circulation to a level less than significant. Other potential impact reduction measures discussed above could reduce impacts to less than significant. These measures cannot be legally imposed by the LACFCD, however, since the locations are under the jurisdiction of other agencies. Every reasonable effort will be made to coordinate with and receive approval from the jurisdictional agencies to implement the impact reduction measures but LACFCD cannot guarantee that the measures will be implemented. Therefore, these temporary impacts could remain potentially significant. No significant traffic impacts would occur under reservoir management.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered environmentally superior to the Proposed Project due to the alternate traffic route and the reduction in traffic impacts associated with the alternative.

Due to the alternate traffic route and the reduction in traffic impacts associated with the alternative, Alternative 5, Haul Route Alternative will also be environmentally superior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D.

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 traffic impacts associated with removal activities.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

UTILITIES & SERVICE SYSTEMS

UTILITIES-1 *Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Sediment Removal

As with the Proposed Project, during sediment removal Alternative 5, Haul Route Alternative will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment and vegetation removal operations will result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Although the drainage characteristics for the site will be altered, the project overall will result in a positive impact to drainage of Devil's Gate Reservoir because it will help restore the flood control capacity of Devil's Gate Dam and Reservoir. As with the Proposed Project, Alternative 5, Haul Route Alternative will add minimal impermeable surface area to the Proposed Project site through paving a portion of the access roads

from Oak Grove Drive. This minimal increase in impervious surface area will not result in any significant increase in stormwater runoff that will require new stormwater drainage facilities.

In addition, these activities will not directly involve the existing storm drain outfalls, power lines, gas line, communication lines, water lines, sewer lines, or water wells. Impacts to these utility facilities will be avoided through compliance with City regulations regarding utility facilities, coordination with utility providers, and implementation of LACDPW BMPs.

Reservoir Management

During reservoir management, Alternative 5, Haul Route Alternative will not result in or require the construction of new or expansion of existing stormwater drainage systems. Sediment that accumulates at the front of the reservoir after the proposed removal will be removed through FAST operations or through mechanical excavation, and sediment accumulated at the back basin will be removed through trucking. The FAST operations are expected to be similar to historic FAST operations, and sediment fines discharged through FAST operations will be transported during storm flows to the Pacific Ocean via Arroyo Seco and the Los Angeles River. No impacts to stormwater facilities are expected during FAST operations. Any necessary mechanical removal during reservoir management is expected to be small (typically 13,000 cy per year). Impacts to stormwater facilities during mechanical removal will be avoided through compliance with City regulations regarding stormwater facilities and implementation of LACDPW BMPs.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 5, Haul Route Alternative will not result in any potentially significant impacts to utility facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project nor to any of the other alternatives except Alternative 6, No Project Alternative. Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities.

4.8.4 Conclusion and Relationship to Project Objectives

Alternative 5, Haul Route Alternative will meet the Proposed Project's objectives of satisfactorily reducing flooding risk, creating a configuration suitable for routine operations and maintenance, reducing the possibility of plugging at the dam face, removing sediment from Johnson Field, removing sediment in a timely manner, and delivering sediment to facilities already prepared to accept sediment.

Alternative 5, Haul Route Alternative is considered neither environmentally superior nor inferior to the Proposed Project due to having the same excavation and management area and associated activities;

however, Alternative 5, Haul Route Alternative will be environmentally superior to the Proposed Project regarding impacts associated with traffic.

Due to the increase in sediment removal and reservoir management areas, Alternative 5, Haul Route Alternative will also be environmentally inferior to Alternative 1, Configuration B; Alternative 2, Configuration C; and Alternative 3, Configuration D; however, Alternative 5, Haul Route Alternative will be environmentally superior to these alternatives regarding impacts associated with traffic.

Alternative 5, Haul Route Alternative will initially be environmentally inferior to Alternative 4, Sluicing due to greater amounts of truck traffic. Alternative 5, Haul Route Alternative is considered environmentally superior to Alternative 4, Sluicing due a shorter duration in construction activities and no potential downstream impacts.

Alternative 5, Haul Route Alternative will be environmentally inferior to Alternative 6, No Project Alternative due to sediment removal and reservoir management activities, although aesthetics, biological resources, and recreation resources of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

4.9 NO PROJECT ALTERNATIVE

§15126.6(e) of the CEQA Guidelines requires analysis of a No Project alternative that (1) discusses existing site conditions at the time the Notice of Preparation (NOP) is prepared or the EIR is commenced, and (2) analyzes what is reasonably expected to occur in the foreseeable future based on current plans if the Proposed Project were not approved.

4.9.1 Alternative Description

Sediment Removal/Reservoir Management

No large-scale sediment removal will take place. The dam face will be kept clear for as long as possible through IMP and FASTing operations, which is the current method of reservoir management.

Excavation/Reservoir Configuration

The IMP allows for the removal of up to 25,000 cy of sediment from the dam face per year.

Removal Method

Sediment removal will be limited to FASTing as long as possible.

Sediment Disposal

It is expected that sediment discharged during the FASTing operations will be transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River either via the discharge flow or subsequent storm flows.

Vegetation Maintenance

No vegetation maintenance would occur under this alternative.

Project Schedule

Continuation of ongoing reservoir management methods.

4.9.2 Impact Analyses and Comparison to Proposed Project

AESTHETICS

AESTHETICS-1 *Have a substantially adverse effect on a scenic vista.*

Sediment Removal/Reservoir Management

The potentially significant impacts associated with the Proposed Project would not immediately occur under this alternative. Instead, over time, the reservoir would fill up with sediment; and the vegetation and adjacent uses could be covered with sediment or water. Although no large-scale sediment removal would take place, changes to scenic vistas and the visual character of the site would occur due to the accumulation of sediment. The current reservoir management methods would still take place, but the Project site would continue to accumulate sediment over time, as FASTing and IMP alone would not be able to move out the accumulated sediment.

Alternative 6, No Project Alternative will not result in obstruction or blockage of views, due to the large difference in elevation between viewpoints and the Proposed Project site.

Under Alternative 6, No Project Alternative, the topography of the reservoir will become higher over time; and vegetation within the excavation limits will either re-establish on top of the sediment or will be covered by the sediment. These elements will result in a moderate degree of contrast from existing visual characteristics but will result in a less than significant impact to scenic vistas. The accumulation of sediment in the reservoir will be highly visible for Viewpoints 1 through 3. For Viewpoints 1 and 3, however, the co-dominant features of Devil's Gate Dam, the reservoir maintenance roads, electrical lines, the debris boom line, and other less dominant features of the San Gabriel Mountains, Oak Grove Drive, JPL facilities, and residential areas will remain unchanged. The existing vegetation throughout the reservoir will not be removed; however, it may be covered by sediment.

Sediment accumulation will be visible from Viewpoint 4 and Viewpoint 5 but will be less dominant due to distance and other more dominant visual elements. The dominant features for Viewpoint 4 (I-210, Devil's Gate Dam, San Gabriel Mountains, and the west side of the reservoir) and Viewpoint 5 (spreading grounds, JPL facilities) will remain unchanged. Impacts associated with Alternative 6, No Project Alternative will be potentially significant.

Mitigation Measure

Not applicable.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will result in a potentially significant impact to scenic vistas.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is initially considered environmentally superior to the Proposed Project with respect to impacts on scenic vistas due to the minimal sediment removal and reservoir management areas and associated activities, although in the subsequent years aesthetic resources of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

Due to the accumulation of sediment in the reservoir, Alternative 6, No Project Alternative will be environmentally inferior to all of the other alternatives.

AESTHETICS-2 *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will not involve damage to rock outcroppings or historic buildings or involve removal of vegetation, including native and non-native trees from the site. The Proposed Project site is not visible from the only designated state scenic highway in the vicinity of the Proposed Project site, SR-2. Therefore, implementation of this alternative will not damage scenic resources within the viewshed of a designated state scenic highway.

I-210, located to the south of the Proposed Project site, is identified as "Eligible" in the State Scenic Highway Program. Alternative 6, No Project Alternative will impact the existing visual character of a portion of the viewshed through the buildup of sediment that could result in some covering of vegetation including native and non-native trees on the site. This impact to visual character of a portion of the viewshed will be smaller in comparison to the Proposed Project due to minimal sediment removal and reduced reservoir management activities. In addition, views of the Proposed Project site from I-210 are very brief in nature (visibility for approximately 0.3 mile) and are dominated by views of the JPL facilities and San Gabriel Mountains. Implementation of Alternative 6, No Project Alternative will not obstruct views of these features. Therefore, impacts to scenic resources within this eligible but not designated state scenic highway will be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts After Mitigation Measure

The Proposed Project site is not visible from any designated state scenic highway and is only briefly visible from an eligible state scenic highway; therefore, impacts related to state scenic highways from sediment removal and reservoir management are less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts related to state scenic highways from sediment removal and reservoir management due to the accumulation of sediment in the reservoir over time.

Due to the accumulation of sediment in the reservoir over time, Alternative 6, No Project Alternative will be environmentally inferior to all other alternatives, as aesthetic resources of the reservoir will degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

AESTHETICS-3 *Substantially degrade the existing visual character or quality of the site and its surroundings.*

Sediment Removal/Reservoir Management

As described above under Aesthetics-1, the Alternative 6, No Project Alternative will adversely change the visual characteristics of the existing Proposed Project site through the accumulation of sediment and the partial to full coverage of trees and vegetation in the reservoir.

Disturbed landscape areas, both man-made and natural, are currently found throughout the basin. The amount and distribution of these areas change on a regular basis and are expected visual elements in the Proposed Project site landscape; however, without a large-scale reservoir cleanout, sediment will continue to accumulate and could cause reduction in vegetation growth, especially in the northern portion of the reservoir.

Mitigation Measures

Not applicable.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will result in a potentially significant impact to visual character.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts to visual character, as aesthetic resources of the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition.

Alternative 6, No Project Alternative will be environmentally inferior to all other alternatives, as views of the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

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.

Alternative 6, No Project Alternative will be consistent with all four criteria, as no emissions will result with implementation of the No Project Alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not violate an air quality standard or contribute substantially to an existing or projected air quality violation. No significant impact would occur.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts to air quality plans due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will be environmentally superior to all other alternatives due to the minimal 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.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, as no emissions will result with implementation of the No Project Alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not exceed any standard SCAQMD Regional Threshold; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts to air quality standards due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will be environmentally superior to all other alternatives due to the minimal sediment removal and reservoir management activities.

AIR QUALITY-3 *Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Sediment Removal/Reservoir Management

Air Quality Plans

As discussed previously, Alternative 6, No Project Alternative will not have emissions that exceed the SCAQMD regional significance thresholds. This impact will be reduced in comparison to the Proposed Project due to the minimal sediment removal and reservoir management activities.

Cumulative Health Impacts

No localized significance threshold is expected to be exceeded during sediment removal; and no localized significance threshold will be exceeded during Alternative 6, No Project Alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not exceed any localized significance threshold; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts to cumulative health due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will be environmentally superior to all other alternatives due to the minimal sediment removal and reservoir management activities.

AIR QUALITY-4 *Expose sensitive receptors to substantial pollutant concentrations.*

Sediment Removal/Reservoir Management

Localized Significance Thresholds

Alternative 6, No Project Alternative will not result in any significant emissions, and no LST thresholds will be exceeded.

Carbon Monoxide Hotspot

The CO Hotspot analysis shows no exceedance of the State or federal CO standard, and no significant impact is expected during Alternative 6, No Project Alternative.

Carcinogenic Or Toxic Contaminants

Alternative 6, No Project Alternative would result in a less than significant non-cancer risk from diesel emissions.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

No thresholds will be exceeded, and impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts to sensitive receptors to substantial pollutant concentrations due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will be environmentally superior to all other alternatives due to the minimal sediment removal and reservoir management activities.

AIR QUALITY-5 *Create objectionable odors affecting a substantial number of people.*

Sediment Removal/Reservoir Management

The CEQA Guidelines indicate that a potentially significant impact would occur if the Proposed Project would create objectionable odors affecting a substantial number of people.

Unlike the Proposed Project, no diesel emissions above existing management activities would result from Alternative 6, No Project Alternative; therefore impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative is not expected to produce objectionable odors; therefore, this impact will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts regarding objectionable odors due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will be environmentally superior to all other alternatives due to the minimal sediment removal and reservoir management activities.

BIOLOGICAL RESOURCES

BIOLOGY-1 *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.*

Sediment Removal/Reservoir Management

Potential impacts under Alternative 6, No Project Alternative would result from the buildup of sediment in the reservoir over time.

Sensitive Plants

No listed or otherwise sensitive plant species were observed on the Proposed Project site. Therefore, as with the Proposed Project, Alternative 6, No Project Alternative is not expected to have a substantial adverse effect on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Sensitive Wildlife

The Proposed Project site contains habitat and/or potential habitat for five special status species: least Bell's vireo, yellow warbler, southwestern pond turtle, coast range newt, and two-striped garter snake. Least Bell's vireo, yellow warbler, coast range newt, and two-striped garter snake have all been observed on the Proposed Project site. The southwestern pond turtle has not been observed on the Proposed Project site. If it did occur, habitat for this species would be largely limited to ponded areas.

Alternative 6, No Project Alternative will disturb significantly less acreage than will be disturbed under the Proposed Project; however, habitat loss or reduction in habitat quality will result from the accumulation of sediment or scouring throughout the reservoir. Impacts will be potentially significant.

Habitat for the coast range newt, the southwestern pond turtle, and the two-striped garter snake occurs within streams and seasonal ponds found on the Proposed Project site. The amount of this habitat that will be available will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Impacts will be potentially significant.

Direct harm or take of these species during reservoir management activities would result in a potentially significant impact. The chance of this occurring during reservoir management activities under this alternative is expected to be lower than the Proposed Project due to minimal reservoir management

activities; however, habitat loss or reduction in habitat quality will result from the accumulation of sediment or scouring throughout the reservoir. Impacts will be potentially significant.

Alternative 6, No Project Alternative would not involve the removal of trees or vegetation and would not have the potential to significantly affect nesting birds and roosting bats, if active nests or roosting bats are present. Impacts to nesting birds and roosting bats will be less than significant.

The availability of streams and seasonal ponds will depend upon where sediment accumulates and the amount of flows, rainfall, and runoff. Special status species have the potential to use the reservoir management area; however, habitat loss or reduction in habitat quality will result from the accumulation of sediment or scouring throughout the reservoir.

Although no habitat will be directly impacted, habitat in the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition. Reduction in sensitive habitat would potentially impact sensitive or special status species, resulting in a potentially significant impact.

Mitigation Measures

Not applicable.

Residual Impacts after Mitigation

Alternative 6, No Project Alternative will result in a potentially significant impact on candidate, sensitive, or special status species.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts to candidate, sensitive, or special status species, 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.

Alternative 6, No Project Alternative will be environmentally inferior to all other alternatives, 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 6, No Project Alternative will directly impact less acreage of Riversidean Alluvial Fan Sage Scrub than the Proposed Project; however, due to continuous sediment deposition, Riversidean Alluvial Fan Sage Scrub habitat will degrade over time. Impacts to Riversidean Alluvial Fan Sage Scrub may result in a potentially significant impact requiring mitigation. Impacts will be potentially significant.

This alternative will directly impact less Riparian Woodland and Mule Fat Thickets than the Proposed Project. Riparian Woodland and Mule Fat Thickets are rare plant communities that provide nesting

habitat for riparian species; however, habitat loss or reduction in habitat quality will result from the accumulation of sediment or scouring throughout the reservoir. Impacts will be potentially significant.

Alternative 6, No Project Alternative will directly impact less acreage of drainage, braided channel, and wetland than the Proposed Project; however, habitat loss or reduction in habitat quality will result from the accumulation of sediment or scouring throughout the reservoir. Impacts will be potentially significant.

Although no habitat will be directly impacted, habitat in the reservoir will likely degrade under Alternative 6, No Project due to continuous sediment deposition. Reduction in habitat could impact riparian habitat and other sensitive natural communities, resulting in a potentially significant impact.

Mitigation Measures

Not applicable.

Residual Impacts after Mitigation

Although a lack of direct impacts will occur to sensitive plant communities and riparian habitat, Alternative 6, No Project Alternative would result in habitat loss or reduction in habitat quality due to the accumulation of sediment or scouring throughout the reservoir. A potentially significant impact on riparian habitat and other sensitive natural communities would occur.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts to riparian habitat and other sensitive natural communities, 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.

Alternative 6, No Project Alternative will also be environmentally inferior to all other alternatives, as habitat in the reservoir will likely degrade under Alternative 6, No Project 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 6, No Project Alternative will impact fewer acres of water features than the Proposed Project. Impacts will be less than significant, although the wetlands in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time. Impacts will be potentially significant.

Mitigation Measures

Not applicable.

Residual Impacts After Mitigation

Impacts to wetlands and drainages under the jurisdiction of CDFW, USACE, and RWQCB, as a result of Alternative 6, No Project Alternative will be potentially significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts on federally protected wetlands, as the wetlands in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

Alternative 6, No Project Alternative is also considered environmentally inferior to all other alternatives with respect to impacts on federally protected wetlands, as the wetlands 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-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. The minimal reservoir management activities associated with Alternative 6, No Project Alternative will not interfere with the movement of native resident or migratory wildlife species, resulting in a less than significant impact. Although no habitat will be directly impacted, it is likely that habitat in the reservoir will degrade under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time. Reduction in sensitive habitat would interfere with use of the habitat for wildlife nursery sites, resulting in a potentially significant impact.

Mitigation Measures

Not applicable.

Residual Impacts After Mitigation

Impacts to wildlife movement and nursery sites will remain potentially significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts to wildlife movement and habitat connectivity, as habitat in the reservoir will likely degrade under Alternative 6, No Project Alternative due to continuous sediment deposition.

Alternative 6, No Project Alternative is also considered environmentally inferior to all other alternatives with respect to impacts to wildlife movement and habitat connectivity, 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-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 6, No Project Alternative will not result in the removal of native trees from the Proposed Project site. This impact will be less than the Proposed Project, as no vegetation and trees will be removed; however it is possible that trees will be lost in the reservoir under Alternative 6, No Project due during to a larger storm event that is anticipated in the future. Trees would be lost in a larger storm event because they would be loosely held within the sediment and would be swept away with larger storm flows. Impacts to trees will be potentially significant.

Mitigation Measures

Not applicable.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will result in a potentially significant impact to city-protected trees.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts to loss of native trees, as trees in the reservoir will likely be lost under Alternative 6, No Project Alternative due to continuous sediment deposition.

Alternative 6, No Project Alternative is also considered environmentally inferior to all other alternatives with respect to impacts to loss of native trees, as trees in the reservoir will likely be lost under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

CULTURAL RESOURCES

CULTURAL-1 *Cause a substantial adverse change in the significance of a historical resource.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no alterations or modifications will be made to any historic resource; and therefore, no significant impact to historical resources is anticipated with this alternative.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No historic resources are within the proposed Project site; therefore, Alternative 6, No Project Alternative will not result in impacts to historic resources.

Comparison to Proposed Project and Other Alternatives

As no historic resources are within the proposed Project site, Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to historic resources.

Alternative 6, No Project Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

CULTURAL-2 *Cause a substantial adverse change in the significance of an archaeological resource.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will involve minimal ground-disturbing activities under reservoir management; and, as noted in Section 3.5, most of the soil in the Proposed Project area consists of recently accumulated sediment. In areas filled with recently accumulated sediment, archeological sites are not anticipated to exist, although it is always possible that unidentified archaeological sites exist in native soils below the accumulated sediment. Reservoir management activities would not exceed the depth of the historic flood deposits. Impacts would be less than significant. This impact will be greatly reduced in comparison to the Proposed Project due to the minimal area that would be disturbed during reservoir management.

Mitigation Measures

No mitigation measures required.

Residual Impacts After Mitigation

No significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior the Proposed Project with respect to archaeological resources due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative is also considered environmentally superior to all other alternatives with respect to archaeological resources.

CULTURAL-3 *Cause a substantial adverse change in the significance of a paleontological resource.*

Sediment Removal/Reservoir Management

No paleontological resources were encountered during the course of the survey and are not expected in the accumulated sediment. It is always possible that unidentified paleontological materials exist in native soil below the accumulated sediment. If sediment removal or reservoir management activities exceed the depth of the historic flood deposits and encounter native soils, unidentified paleontological materials have the potential to be significantly impacted. Alternative 6, No Project Alternative would not include large-scale sediment removal, and reservoir management activities would involve only keeping

the dam face clear; therefore, the depth of historic flood deposits would not be exceeded. This impact will be less in comparison to the Proposed Project due to the minimal area disturbed during sediment removal and reservoir management.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to paleontological resources due to minimal sediment removal activities and reduced reservoir management activities.

Alternative 6, No Project Alternative is also considered environmentally superior to all the other alternatives with respect to paleontological resources.

CULTURAL-4 *Potentially impact unknown human remains within the proposed project site.*

Sediment Removal/Reservoir Management

As with the Proposed Project, archival research and the archaeological survey in connection with the present project did not indicate the presence of any known human remains in the project area; however, as reservoir management activities would involve no more than keeping the dam face clear, it is unlikely that human remains would be discovered.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts are expected.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to accidental discovery of human remains due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative is also considered environmentally superior to all the other alternatives with respect to accidental discovery of human remains.

GEOLOGY & SOILS

GEOLOGY-1 *Potentially result in soil erosion or loss of topsoil during sediment removal activities.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will not involve any large-scale removal of sediment from the reservoir. Sediment stockpiled at Johnson Field as part of the IMP will not be removed. Sediment will continue to accumulate in the reservoir, and FASTing will occur to keep the dam face clear as much as possible. This impact associated with soil erosion will be less in comparison to the Proposed Project, as Alternative 6, No Project Alternative would not involve sediment excavation that could lead to erosion of the slopes on the perimeter of the excavation area.

Mitigation Measures

No mitigation measures will be required.

Residual Impacts After Mitigation

No significant impacts to geology and soils would occur as a result of Alternative 6, No Project Alternative.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to soil erosion due to the fewer potential erosion impacts.

Due to the fewer potential erosion impacts, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives.

GREENHOUSE GAS EMISSIONS

GHG EMISSIONS-1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will not involve the use of any construction equipment. In addition, this alternative will not involve trucking of sediment or vegetation offsite. 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 6, No Project Alternative will have a less amount of daily equipment usage and no truck traffic; therefore, this alternative will generate less greenhouse gas emissions than the Proposed Project, which will not be “cumulatively considerable,” and is therefore less than significant under CEQA.

Unlike the Proposed Project, Alternative 6, No Project Alternative would not have a positive effect on climate change. High ambient temperatures coupled with important demand for oxygen due to the degradation of substantial amounts of organic matter favor the production of CO₂, the establishment of

anoxic conditions, and thus the production of CH₄. With the reservoir is left as it is, the large quantity of biomass currently existing may exacerbate the condition.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with the generation of greenhouse gas emissions will occur as a result of Alternative 6, No Project Alternative.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative will generate less overall greenhouse gas emissions than the Proposed Project and therefore is considered environmentally superior to the Proposed Project due to overall production of greenhouse gas emissions.

Due to overall production of greenhouse gas emissions, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives.

GHG EMISSIONS-2 *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Sediment Removal/Reservoir Management

AB 32 identified a 2020 target level for GHG emissions in California of 427 MMT of CO₂e, which is approximately 28.5 percent less than the year 2020 BAU emissions estimate of 596 MMT CO₂e. To achieve these GHG reductions, widespread reductions of GHG emissions will have to occur across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. These reductions in mobile-sources and energy production of GHG emissions would occur with or without development of Alternative 6, No Project Alternative. Overall, Alternative 6, No Project Alternative will be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. Currently, no other GHG reduction plan (i.e., SCAG, SCAQMD, or County) applies to Alternative 6, No Project Alternative. As with the Proposed Project, Alternative 6, No Project Alternative will not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant impacts associated with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will occur as a result of Alternative 6, No Project Alternative.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project with respect to applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Alternative 6, No Project Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS AND HAZARDOUS MATERIALS

HAZARDS-1 *Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 6, No Project Alternative will include the use of hazardous materials associated with the construction equipment needed to keep the dam face clear. Adequate BMPs as currently used under the IMP projects will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to the minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will also be environmentally superior to all of the other alternatives due to the minimal sediment removal and reservoir management activities.

HAZARDS-2 *Create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials into the environment.*

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 6, No Project Alternative will include the use of hazardous materials associated with the construction equipment needed to keep the dam face clear. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will also be environmentally superior to all of the other alternatives due to minimal sediment removal activities and reduced reservoir management activities.

HAZARDS-3 *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Sediment Removal/Reservoir Management

As with the Proposed Project, no significant impacts associated with hazardous soils are expected. Alternative 6, No Project Alternative will include the use of hazardous materials associated with the construction equipment needed to keep the dam face clear. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Implementation of BMPs and adherence to the applicable regulations will reduce the potential for impacts associated with hazardous materials within one-quarter mile of an existing school to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives due to minimal sediment removal and reservoir management activities.

HAZARDS-4 *Located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.*

Sediment Removal/Reservoir Management

EPA included Hahamongna Watershed Park area on the NPL Superfund List due to the presence of detected VOCs and perchlorate in groundwater originating from the JPL property. The impacted groundwater is at 200 feet bgs; and, as with the Proposed Project, the concentrations of organochlorine pesticides, petroleum hydrocarbons (diesel and hydraulic/motor oil range and aromatics), and SVOCs detected in samples collected from Devil's Gate Reservoir are below regulatory thresholds. Therefore, the listing of the watershed on the Superfund List does not present a significant hazard to the public or the environment, and no significant impacts associated with the Alternative 6, No Project Alternative are expected.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

No significant adverse impacts were identified.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 6, No Project Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

HAZARDS-5 *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will not increase flood control protection downstream of Devil's Gate Dam. If the dam face cannot be kept clear, the potential for flooding downstream of Devil's Gate Dam will increase. In addition to potentially damaging downstream properties, this flooding could also potentially interfere with access to roadways. Therefore, Alternative 6, No Project Alternative may significantly interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies.

Mitigation Measures

No mitigation measures available.

Residual Impacts After Mitigation

Due to reduction of flood control protection, Alternative 6, No Project Alternative, may significantly interfere with the current emergency response plan or emergency evacuation plan for local, State, or federal agencies.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project, as Alternative 6, No Project Alternative will severely restrict flood control capacity and capability, potentially increasing flooding downstream of Devil's Gate Dam.

Alternative 6, No Project Alternative will also be environmentally inferior to all of the other alternatives as Alternative 6, No Project Alternative will severely restrict flood control capacity and capability, potentially increasing flooding downstream of Devil's Gate Dam.

HYDROLOGY & WATER QUALITY

HYDROLOGY-1 *Violate any water quality standards or waste discharge requirements.*

Sediment Removal/Reservoir Management

FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. During both sediment removal and reservoir management phases, FAST operations will take place during winter rain events, using natural flows to allow the finer grained sediment to pass through the reservoir and downstream of the dam. It is anticipated that these FAST operations will be similar to historic FAST operations and that sediment fines discharged during FAST operations will be transported to the Pacific Ocean via Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows. As with the Proposed Project, no significant impacts to water quality standards are expected due to FAST operations.

Alternative 6, No Project Alternative will include the use of hazardous materials associated with the construction equipment needed to keep the dam face clear. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts to water quality will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project.

Alternative 6, No Project Alternative will also be environmentally superior to all of the other alternatives due to minimal sediment removal and reservoir management activities.

HYDROLOGY-2 *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.*

Sediment Removal/Reservoir Management

Unlike the Proposed Project, with implementation of Alternative 6, No Project Alternative the reservoir will not have the ability to contain more of the local runoff, which in turn will result in less stormwater penetrating surface sediment in the project area and subsequently recharging the groundwater basin.

In addition, sediment deposition has the potential to build up in the City of Pasadena's spreading grounds on the east side of the basin, reducing their efficiency to provided groundwater recharge. This could result in a potentially significant impact to groundwater supplies.

Mitigation Measures

No mitigation measures available.

Residual Impacts After Mitigation

A potentially significant unavoidable adverse impact would occur to groundwater recharge as a result of Alternative 6, No Project Alternative.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project, due to the reduced amount of area to contain local runoff and potential impacts to adjacent spreading basins.

Alternative 6, No Project Alternative will also be environmentally inferior to any of the other alternatives due to the reduced amount of area to contain local runoff and potential impacts to adjacent spreading basins.

HYDROLOGY-3 *Substantially alter the existing drainage pattern of the site, which would potentially result in substantial erosion or siltation.*

Sediment Removal/Reservoir Management

Drainage patterns within the reservoir change on a regular basis depending on seasonal conditions, water flow, and sediment deposition. Sediment removal and reservoir management will also result in alterations of surface drainage characteristics at the project site due to clearing, grading, and excavation activities. Excavation, grading, and sediment placement activities will occur under LACDPW regulations, which establish protocols for proper design of slopes and temporary sediment-collecting structures.

The drainage characteristics for the site will be only slightly altered; therefore, Alternative 6, No Project Alternative will result in a negative impact to drainage of Devil's Gate Reservoir because it will reduce

the flood control abilities of Devil's Gate Dam. Sediment will continue to accumulate in the reservoir; however, impacts related to offsite erosion will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will result in a less than significant impact on drainage patterns.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 6, No Project Alternative will also be neither environmentally superior nor inferior to any of the other alternatives, except for Alternative 4, Sluicing. Alternative 6, No Project Alternative will be environmentally superior to Alternative 4, Sluicing due to the potential for erosion associated with the sluicing alternative.

HYDROLOGY-4 *Otherwise substantially degrade water quality.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will include the use of hazardous materials associated with the construction equipment needed to keep the dam face clear. Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for hazardous materials impacts to a less than significant level and will not pose a safety hazard to sensitive receptors.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Adequate BMPs will be utilized; and adherence to the regulations set forth by County, State, and federal agencies will reduce the potential for impacts to water quality to a less than significant level.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to minimal sediment removal and reservoir management activities.

Alternative 6, No Project Alternative will also be environmentally superior to all of the other alternatives due to minimal sediment removal and reservoir management activities.

LAND USE & PLANNING

LAND USE-1 *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Sediment Removal

As with the Proposed Project, Alternative 6, No Project Alternative will not conflict with the City's General Plan or zoning designation of Open Space for the Proposed Project site and is consistent with the LACFCD easement.

As discussed in Subsection 3.8.3, Applicable Regulations, the HWPMP emphasizes protection of recreational and natural resources as well as the management of flood control for the downstream watershed. Alternative 6, No Project Alternative is not consistent with HWPMP Goal 2 of managing the flood control basin for protection of the downstream areas by improving and maintaining the flood capacity behind Devil's Gate Dam.

Alternative 6, No Project Alternative may have indirect impacts to existing recreation uses due to the continued accumulation of sediment in the reservoir. In addition, as discussed above in Biological Resources, Alternative 6, No Project Alternative may have potentially significant impacts associated with biological resources due to the accumulation of sediment in the reservoir. Impacts associated with recreational activities coexisting with flood management and water conservation will be significant.

Mitigation Measure

No mitigation measures available.

Residual Impacts After Mitigation

Impacts to consistency with HWPMP Goal 2, habitat restoration and recreation coexisting with flood management and water conservation, will be potentially significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to impacts to land use associated with compatibility to habitat restoration and recreation due to potential impacts that will occur. Habitat in the reservoir is likely to degrade; and recreational activities may be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

Alternative 6, No Project Alternative is also considered environmentally inferior to all the other alternatives with respect to impacts to land use associated with compatibility to habitat restoration and recreation. Potential impacts will occur, as habitat in the reservoir is likely to degrade; and recreational activities may be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition.

MINERAL RESOURCES

MINERALS-1 *Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.*

Sediment Removal/Reservoir Management

The Proposed Project site contains areas delineated within SMARA zone designated MRZ-2, which indicates that the area contains adequate information to indicate that significant mineral deposits are present or are judged to have a high likelihood for their presence (City of Pasadena 2002). As with the Proposed Project, under Alternative 6, No Project Alternative the Proposed Project site will not be available for mining operations during reservoir management activities; however reservoir management is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not result in any potentially significant impacts to mineral resources that will be of value to the region and residents of the state.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 6, No Project Alternative will also be neither environmentally superior nor inferior to any of the other alternatives.

MINERALS-2 *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

While the Arroyo Seco Master Plan EIR (2002) states that the reservoir may contain large quantities of arroyo stone, the Proposed Project site is not delineated as a locally important mineral resource recovery site on a local general plan, specific plan, or other local land use plan. As with the Proposed Project, under Alternative 6, No Project Alternative, the Proposed Project site will not be available for mining operations during reservoir management activities; however, reservoir management is not expected to involve usable aggregate material or arroyo stone due to unfavorable characteristics such as fine gradation soil and high organic content levels. Impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not result in any potentially significant impacts to availability of a locally important mineral resource recovery site.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project.

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to any other alternative.

NOISE & VIBRATION

NOISE-1 *Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Sediment Removal/Reservoir Management

Onsite Construction Equipment Noise

Under Alternative 6, No Project Alternative, less construction equipment will be used at the Proposed Project site.

Offsite Vehicular Noise

Under Alternative 6, No Project Alternative, no haul truck trips will occur, as no material will be trucked offsite. Therefore, for Alternative 6, No Project Alternative potential offsite traffic noise impacts will be less than those generated from the Proposed Project. Overall, as with the Proposed Project, roadway noise impacts will be less than significant.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will comply with all local noise ordinances and roadway noise impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts associated with noise levels due to minimal sediment removal and sediment management activities.

Due to minimal sediment removal and sediment management activities associated with the alternative, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives.

NOISE-2 *Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Sediment Removal/Reservoir Management

Unlike the Proposed Project, no sensitive receptors would experience vibration levels that would exceed the 0.01-inch-per-second vibration standard.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Onsite construction equipment vibration impacts to nearby sensitive receptors would be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts associated with vibration levels due to the lack of trucks moving material offsite.

Due to the lack of trucks moving material offsite, Alternative 6, No Project Alternative will also be environmentally superior to all other alternatives.

NOISE-3 *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative, will not create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing noise levels. In addition, no offsite noise impacts will result as no haul trucks will be used for this alternative and as less construction equipment will be used onsite.

Onsite Construction Equipment Noise

Less onsite equipment will be operated under Alternative 6, No Project Alternative. The alternative will not conflict with any construction noise standards. In addition Alternative 6, No Project Alternative will have lower onsite construction noise levels than those generated from the Proposed Project.

Offsite Vehicular Noise

Unlike the Proposed Project, few offsite vehicular trips will be associated with Alternative 6, No Project Alternative. Therefore, reduction of offsite vehicular noise impacts will result in a less than significant

impact. In addition, Alternative 6, No Project Alternative will have less offsite vehicular noise than those generated from the Proposed Project, due to the lack of trucks moving material offsite.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts After Mitigation

Temporary noise level increase from onsite construction noise would be less than significant. Less than significant impacts would occur from offsite vehicular noise.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project with respect to impacts associated with noise levels due to no haul trucks being used for this Alternative.

Due to the lack of haul truck trips for the Alternative, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives.

RECREATION/PUBLIC SERVICES

RECREATION-1 *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Alternative 6, No Project Alternative will not result in the construction of new residences, or facilitate the development of residences, or result in an increase in area population. Therefore, implementation of the Alternative 6, No Project Alternative will not result in increased use or the physical deterioration associated with increased use for neighborhood or regional parks or other recreational facilities due to any increases in area population.

Sediment Removal Impacts

Unlike the Proposed Project, under Alternative 6, No Project Alternative sediment would not be removed from the reservoir and would continue to accumulate in the reservoir over time. Although most of the site will remain open to public use, Alternative 6, No Project Alternative will have a potential impact on recreation opportunities if sediment accumulates to the point of covering designated trails within the reservoir.

Maintenance roads within the basin are used by the LACFCD, Southern California Edison (SCE), and the City of Pasadena, among others, for operations and maintenance of Devil's Gate Reservoir and other facilities in the area. The majority of the maintenance roads will eventually be covered as a result of continued sediment accumulation; however, these roads are not officially designated for recreational uses and are often not available for unofficial recreation use due to reservoir water levels or maintenance activities.

Designated Recreational Uses

Implementation of Alternative 6, No Project Alternative may result in impacts to portions of designated trails and indirect impacts to existing recreation uses due to the continued accumulation of sediment in the reservoir. These impacts may increase the use of other area parks and recreational facilities such as those described in Table 3.15-1, Area Recreational Facilities.

The Oak Grove area of Hahamongna Watershed Park and the associated facilities, including Oak Grove Disk Golf Course, will not be impacted and will continue to provide active recreational facilities to the area. Alternative 6, No Project Alternative will not limit the use of the Oak Grove area of Hahamongna Watershed Park by individuals or by organizations such as the Oak Grove Disc Golf Club, the Rose Bowl Riders, MACH 1, or the Tom Sawyer Camp.

Activities such as hiking, biking, horseback riding, bird watching, and nature walks will occur in the same manner as existing conditions until sediment deposition covers any used trails. In addition, Alternative 6, No Project Alternative will not limit or block access to the Oak Grove area and the designated trails and will not result in direct potentially significant impacts to these facilities.

Indirect impacts to recreation associated with Alternative 6, No Project Alternative will initially be less in comparison to the Proposed Project due to the minimal sediment removal activities.

If the reservoir is negatively impacted by the accumulation of sediment, recreational users may choose to visit other area parks, recreational facilities, or trails. Due to the number of other recreational facilities and trails in the vicinity, it is anticipated that these visitors will be dispersed throughout the area and that no substantial increase in use of any one park or facility will occur. Therefore, Alternative 6, No Project Alternative will not increase use of other existing parks or recreation facilities such that substantial physical deterioration of these facilities will occur or be accelerated. Impacts to other existing parks and recreation facilities will be less than significant.

Reservoir Management Impacts

Under the proposed reservoir management, access to Devil's Gate Reservoir will be similar to existing conditions. Reservoir management will include FASTing, which is the existing manner in which sediment is slowly moved downstream during storm events. The Oak Grove area of Hahamongna Park and the designated trails will not be impacted by reservoir management activities and will continue to provide active recreational facilities to the area. Unlike the Proposed Project, trails will not be beneficially impacted, as recreational facilities have the potential to be disrupted through flooding and/or being buried under sediment. Impacts to existing parks and recreation facilities associated with Alternative 6, No Project Alternative reservoir management activities will be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not result in any potentially significant impacts associated with increased use of other existing parks or recreation facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project with respect to recreation uses, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

Alternative 6, No Project Alternative will also be environmentally inferior to all of the other alternatives, as recreational activities will likely be impacted under Alternative 6, No Project due to continuous sediment deposition and degradation that will increase over time.

RECREATION-2 *Require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment.*

As discussed in detail above under RECREATION-1, recreational users may choose to visit other area parks, recreational facilities, or trails if sediment accumulation impacts these facilities through flooding or sediment coverage. It is anticipated that these visitors will be dispersed throughout the area and that a substantial increase in use of any one park or facility will not occur. Therefore, Alternative 6, No Project Alternative will not require the construction or expansion of existing recreational facilities which might have an adverse physical effect on the environment, resulting in a less than significant impact. Although no recreational facilities will be directly impacted, trails in the reservoir will likely be covered under Alternative 6, No Project due to continuous sediment deposition.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

Alternative 6, No Project Alternative will also be environmentally inferior to all the other alternatives, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

PUBLIC SERVICES-1: *Result in substantial adverse impacts associated with the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.*

As discussed in detail above under RECREATION-2, Alternative 6, No Project Alternative will not result in a substantial increase in use of any one park or facility. Therefore, Alternative 6, No Project Alternative will not require the provision of or need for new or physically altered recreational facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not result in any potentially significant impacts associated with the construction or expansion of existing recreational facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

Alternative 6, No Project Alternative will also be environmentally inferior to all of the other alternatives, as recreational activities will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

TRANSPORTATION & TRAFFIC

TRANSPORTATION-1 *Conflict with an applicable plan, ordinance, or policy establishing measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative would not cause a substantial increase in traffic which would affect the efficiency of the circulation system, including all modes of transportation such as mass transit and non-motorized travel and relevant components of the circulation system, including intersections, streets, highways, freeways, pedestrian and bicycle paths, and mass transit. Alternative 6, No Project Alternative would not involve any truck traffic as no sediment or vegetation will be trucked offsite. Impacts will be less than significant.

Mitigation Measure

No mitigation measures are required.

Residual Impacts after Mitigation

All impacts to traffic and circulation will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to the lack of traffic associated with the Alternative.

Due to lack of traffic associated with the Alternative, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives.

TRANSPORTATION-2 *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Alternative 6, No Project Alternative will not significantly impact freeway segments, freeway on- and off-ramps, or intersections. Impacts will be less than significant.

Mitigation Measure

No mitigation measures are necessary.

Residual Impacts After Mitigation

All impacts to traffic and circulation will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to the lack of trucking associated with the Alternative.

Due to the lack of trucking associated with the Alternative, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives.

TRANSPORTATION-3 *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Sediment Removal

Implementation of the Alternative 6, No Project Alternative would not require mitigation measures that would require modifications to the existing roadway network. Alternative 6, No Project Alternative would not require any trucking and would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, impacts related to traffic hazards would be less than significant.

Reservoir Management

The reservoir management associated with Alternative 6, No Project Alternative would not require any modifications to the existing roadway network and would not introduce any new uses that would be incompatible or substantially increase hazards with the existing roadway system. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts After Mitigation

Impacts will be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 1, Configuration B is considered neither environmentally superior nor inferior to the Proposed Project or any of the other alternatives as it would not introduce any new uses that would be incompatible with the existing roadway system.

TRANSPORTATION-4 *Result in inadequate emergency access.*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative will not increase flood control protection downstream of Devil's Gate Dam. If the dam face cannot be kept clear, the potential for flooding downstream of Devil's Gate Dam will increase. In addition to potentially damaging downstream properties, this flooding could also potentially interfere with access to roadways. Therefore, Alternative 6, No Project Alternative, may significantly impact emergency access.

Mitigation Measures

No mitigation measures available.

Residual Impacts After Mitigation

Due to reduction of flood control protection, Alternative 6, No Project Alternative, may significantly impact emergency access.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally inferior to the Proposed Project as Alternative 6, No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

Alternative 6, No Project Alternative will also be environmentally inferior to all of the other alternatives as Alternative 6, No Project Alternative will severely restrict flood control, potentially increasing flooding downstream of Devil's Gate Dam.

TRANSPORTATION-5 *Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Sediment Removal/Reservoir Management

Alternative 6, No Project Alternative would not adversely affect alternative modes of public transportation such as light rail. Implementation of Alternative 6, No Project Alternative would not require closure of any bus stops or disrupt any existing bus routes. No impact would occur.

Mitigation Measure

No mitigation measures available.

Residual Impacts After Mitigation

All impacts to traffic and circulation would be less than significant.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to the lack of trucking and associated traffic impacts.

Due to the lack of trucking and associated traffic impacts, Alternative 6, No Project Alternative will also be environmentally superior to all of the other alternatives.

UTILITIES & SERVICE SYSTEMS

UTILITIES-1 *Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Sediment Removal

As with the Proposed Project, during sediment removal Alternative 6, No Project Alternative will not result in or require the construction of new or expansion of existing stormwater drainage systems; however, the alternative will not result in a positive impact to drainage of Devil's Gate Reservoir because it will not restore the flood control capacity of Devil's Gate Dam and Reservoir. The alternative will not result in any significant increase in stormwater runoff that will require new stormwater drainage facilities.

In addition, the alternative will not directly involve the existing storm drain outfalls, power lines, gas line, communication lines, water lines, sewer lines, or water wells. Impacts to these utility facilities will be avoided through compliance with City regulations regarding utility facilities, coordination with utility providers, and implementation of LACDPW BMPs.

Reservoir Management

During reservoir management, Alternative 6, No Project Alternative will not result in or require the construction of new or expansion of existing stormwater drainage systems.

Mitigation Measure

No mitigation measures are required.

Residual Impacts After Mitigation

Alternative 6, No Project Alternative will not result in any potentially significant impacts to utility facilities.

Comparison to Proposed Project and Other Alternatives

Alternative 6, No Project Alternative is considered neither environmentally superior nor inferior to the Proposed Project nor to any of the other alternatives.

4.9.3 Conclusion and Relationship to Project Objectives

Alternative 6, No Project Alternative will not meet any of the Proposed Project's objectives of satisfactorily reducing flooding risk, creating a configuration suitable for routine operations and maintenance, reducing the possibility of plugging at the dam face, removing sediment from Johnson Field, removing sediment in a timely manner, and delivering sediment to facilities already prepared to accept sediment.

Alternative 6, No Project Alternative is considered environmentally superior to the Proposed Project due to minimal sediment removal and reservoir management activities and associated impacts.

Due to minimal sediment removal and reservoir management activities and associated impacts, Alternative 6, No Project Alternative will also be environmentally superior to all the other alternatives, although aesthetics, biological resources, and recreation resources of the reservoir will likely be impacted under Alternative 6, No Project Alternative due to continuous sediment deposition and degradation that will increase over time.

4.10 ALTERNATIVES CONSIDERED BUT NOT SELECTED FOR ANALYSIS

Section 15126.6(c) of the *CEQA Guidelines* suggests that an EIR identify alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the CEQA Guidelines, the following factors may be used to eliminate alternatives from detailed consideration: the alternative's failure to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. Alternatives that have been considered by the LACFCD and rejected as infeasible are discussed below.

4.10.1 Conveyor Belt Alternative

Description

The configuration and amount of sediment removal would be the same as the Proposed Project (Configuration A). The removal method, including excavation of sediment from the reservoir, would be the same as the Proposed Project except this removal method involves the construction of a temporary conveyor belt system to transfer sediment out of the reservoir to another location for loading into trucks. The conveyor terminus that was considered for this removal method is a vacant parcel (AIN 5825022902) located within the City of Pasadena. The parcel is bounded by Oak Grove Drive to the north, Weimar Avenue to the south, Yucca Lane to the west, and Windsor Avenue to the east. The parcel has an area of approximately 0.7 acre and is located approximately 1/3 of a mile from the dam spillway. After excavation from the reservoir, the sediment would be loaded onto the conveyor belt system. The length of the temporary conveyor is expected to be approximately 0.5 to 0.75 mile long.

The sediment disposal method is the same as the Proposed Project. Trucks will access the freeway by exiting out of the conveyor terminus lot, turning south on Windsor Avenue, and either east or west onto

I-210, depending upon the location of the disposal site. Once on I-210, the disposal routes are the same as the Proposed Project.

The reservoir management approach would be the same as the Proposed Project.

Reason for Elimination

This alternative was eliminated from further consideration because it would not avoid or substantially reduce any significant environmental effects.

4.10.2 Slurry Pipeline Alternative

Description

The configuration and amount of sediment removal would be the same as the Proposed Project (Configuration A). When the reservoir has sufficient water storage, a slurry pipeline would be used to send the sediment downstream. This method involves allowing the water to build up behind the dam, conducting operations to suspend the sediment in the water, and transporting the sediment slurry downstream of the dam in a pipeline. Two segments of the Arroyo Seco, immediately below the dam and near the crossing at Colorado Street, are not lined with concrete. Due to a concern that the highly concentrated slurry may degrade these areas, the slurry pipeline would extend to a location downstream of the second unlined area near Colorado Street. The length of the pipeline is approximately 3 miles and is expected to be 12 to 24-inches in diameter. The alignment of the pipeline would generally be over or through the dam and along the Arroyo Seco, either above or below grade.

The intent is that the discharged sediment would ultimately be transported to the Pacific Ocean via the Arroyo Seco and the Los Angeles River, either via the discharge flow or subsequent storm flows. Total sediment transport is not expected to occur, therefore, sediment removal from Arroyo Seco, the Los Angeles River, or the Port of Long Beach would be required. Also, the amount of sediment that would be transported through the slurry pipeline is limited by the amount of water available to store. Total sediment transport is not expected to occur, which would likely cause future impacts for cleanouts.

The project duration is variable, as the amount of sediment that can be transported through the slurry pipeline is limited by the amount of water available. While future flows through the system are unknown, using historical reservoir inflow data it is estimated that using a slurry pipeline as the sole sediment removal method will take approximately 75 years to remove the 2.9 million cy of sediment.

Reason for Elimination

The Slurry Pipeline Alternative was rejected due to the high risk to downstream habitat as well as the limitations of being able to quickly and efficiently move sediment out of the reservoir. This alternative would fail to meet the project objectives and would result in greater/additional impacts than the Proposed Project (biological resources, geology).

4.10.3 Dam Removal Alternative

Description

In this alternative, Devil's Gate Dam would be discontinued from operation and removed. The area would be returned to the state it was in before the dam was constructed. Since no flood control mechanism would be in place, areas downstream of the dam could experience sediment accumulation and intermittent flooding. These areas would include both natural and man-made settings and would include the lower Arroyo Seco, the Rose Bowl, and potentially some residential areas. No sediment would be removed mechanically from the dam, but sediment would likely move downstream due to the removal of the dam.

Reason for Rejecting Alternative

This alternative was rejected due to its inconsistency with project objectives, as well as the potential safety concerns. This alternative would fail to meet the project objectives and would result in greater/additional impacts than the Proposed Project (geology, hazards, hydrology, and public services).

4.10.4 Upstream Sediment Management Alternative

Description

In this alternative, reservoir management would be achieved through watershed and sediment maintenance upstream of Devil's Gate Reservoir. This management technique includes removal of sediment from the upstream areas instead of from within the reservoir, as well as providing other sediment control measures upstream including revegetation and other methods. In this alternative, management would not include removal of sediment from the dam and would be restricted to preventative measures upstream.

Reason for Rejecting Alternative

This alternative was rejected due to the fact that the upstream areas are not under the purview of this project and is out of LACFCD jurisdiction. This alternative would fail to meet the project objectives and would result in greater/additional impacts than the Proposed Project (geology, hazards, hydrology, and public services).

4.11 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Of the alternatives analyzed in the EIR, Alternative 3, Configuration D is considered to be the environmentally superior alternative as it would reduce most of the potential impacts associated with the sediment removal and management of the Proposed Project.

In addition, Alternative 3, Configuration D would result in the fewest environmental impacts as compared to the Proposed Project while still achieving the project objectives of the Proposed Project. Alternative 3, Configuration D is the Environmentally Superior Alternative.