Section 3
Mitigation Measures for Concept Design Studies

3.1 AIR QUALITY

Mitigation Measures CD-A1 through CD-A10

Applicable Project:	All Concept Design Studies
Impact:	Fugitive dust emissions during construction
Timing:	During project construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review project plans and specifications Construction inspection

CD-A1 Clean dirt from construction vehicle tires and undercarriages when leaving the construction site and before entering local roadways.

CD-A2 During earth-moving activities, water the construction area as necessary, but at least twice per day.

CD-A3 Water temporary open storage piles once per hour or install temporary covers.

CD-A4 Water unpaved roadways three times per day or apply non-toxic soil stabilizers. (Note: Use of soil stabilizers near wetlands, streams, or other water features may be limited by regulatory agencies such as the U.S. Army Corps of Engineers and the California Department of Fish and Game.)

CD-A5 Limit construction vehicle speed on the project site to 15 miles per hour (mph) or less.

CD-A6 Cover dirt in trucks during on-road hauling.

CD-A7 Cease earth-moving activities on days when wind gusts exceed 25 mph or apply water to soil not more than 15 minutes prior to moving such soil.

CD-A8 Sweep streets near the construction area at the end of the day if visible soil material is present.

CD-A9 For applicable construction areas, establish a vegetative groundcover as soon as feasible after active operations have ceased. Groundcover shall be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting.

CD-A10 Per SCAQMD Rule 403(e), large construction operations (greater than 50 acres of disturbed area or daily earth-moving or throughput volume of 5,000 cubic yards three times during the most recent 365-day period) shall implement applicable dust

suppression measures specified in Table 2 of Rule 403 at all times. When the applicable performance standards cannot be met through use of Table 2 measures, the applicable contingency control measures specified in Table 3 of Rule 403 shall be implemented.

Mitigation Measures CD-A11 through CD-A13

Applicable Project:	All Concept Design Studies
Impact:	Tailpipe emissions from construction vehicles and equipment
Timing:	During project construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Construction inspection

Mitigation Measures CD-A11, CD-A12, and CD-A13 shall be implemented during construction of all five Concept Design Studies to reduce tailpipe emissions (including CO, ROC, NO_x, SO_x, and PM10) from worker commutes, use of delivery and work trucks, and use of construction equipment.

CD-A11 Prohibit all vehicles from idling in excess of 10 minutes, both on and off-site.

CD-A12 Maintain construction equipment in proper tune.

CD-A13 Encourage contractors to establish trip reduction plans. The goal of these plans will be to achieve a 1.5 average vehicle ridership (AVR) for construction employees.

Optional Mitigation Measure CD-A14

Applicable Project:	All Concept Design Studies
Impact:	Tailpipe emissions from construction vehicles and equipment
Timing:	Prior to start of construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of project plans and specifications

To further reduce tailpipe emissions from construction equipment, implementation of optional Mitigation Measure CD-A14 shall be considered at the time of construction of individual projects. The majority of the construction emissions, particularly for NO_x, are associated with tailpipe emissions from diesel-fueled construction equipment. Using construction equipment with alternative fuel(s) can achieve high reduction efficiency for tailpipe emissions. The approximate NO_x emissions reduction rates of various alternative fuels are: 60 percent for compressed natural gas (CNG), 10 percent for emulsified diesel fuel, and 2 to 10 percent for biodiesel fuel (EPA, 2003c). However, use of construction equipment with alternative fuel(s), while effective, may not be applicable to all projects (i.e., limited equipment availability and high costs may make it infeasible to use a large fleet of construction equipment with alternative fuel(s)).

CD-A14 Select construction equipment with low pollutant emissions and high energy efficiency. Factors to consider include model year and alternative fuels (e.g., compressed natural gas, biodiesel, emulsified diesel, methanol, propane, butane, and low sulfur diesel).

Mitigation Measure CD-A15

Applicable Project:	All Concept Design Studies
Impact:	Fugitive dust emissions during project operation and maintenance activities
Timing:	During project operation and maintenance activities
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of operations and maintenance plans

Implement dust control if dry conditions and substantial area is disturbed for operations and maintenance activities that involve ground disturbance

Mitigation Measure CD-A16

Applicable Project:	All Concept Design Studies that involve power consumption during project operation
Impact:	Air quality impacts associated with power consumption
Timing:	During project operation
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of project plans and specifications

Select energy efficient lighting features or other building design considerations for proposed facilities (e.g., park buildings or interpretive centers) to minimize emissions associated with power generation.

3.2 BIOLOGICAL RESOURCES

Mitigation Measure CD-B1

Applicable Project:	All Concept Design Studies
Impact:	Impacts on special status species
Timing:	Prior to completion of detailed design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of biological survey reports

Prior to completion of detailed design plans for each of the five Concept Design Study sites, a qualified biologist shall conduct general plant and wildlife surveys to determine if any focused surveys for special status species are necessary. If the surveys confirm the potential for one or

more special status species to occur, focused surveys for those species shall be conducted as described in Mitigation Measure CD-B2.

Mitigation Measure CD-B2

Applicable Project:	All Concept Design Studies, as applicable (i.e., if the general biological survey (Mitigation Measure CD-B1) indicates that there is potential for sensitive species to occur on the project site)
Impact:	Impacts on special status species
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of biological survey reports Review of project plans and specifications Documentation of USFWS and CDFG agency coordination, as applicable Construction inspection

If the general biological survey (Mitigation Measure CD-B1) indicates that there is potential for sensitive plant species to occur on the project site, a spring survey shall be conducted prior to finalizing the project designs. The special status plant species surveys shall follow guidelines developed by the CNPS (CNPS, 2001). These surveys, as outlined in the guidelines, shall be conducted during the appropriate time of year for each species as determined by a qualified botanist. Collection of special status plant species, if any, shall follow the guidelines of CDFG and USFWS collection permits. If any special status plant species are located, their rarity and abundance shall be evaluated. If the general biological survey indicates that there is potential for special status wildlife species to occur on the project site, protocol surveys for those species shall be conducted in accordance with appropriate survey protocols at the appropriate time of the year. The results of these investigations and the appropriate mitigation measures to reduce any potentially significant environmental impacts to a level that is less than significant shall be disclosed in second tier CEQA documentation.

If any special status wildlife species are identified, the proposed facilities shall be designed and/or sited to avoid or reduce potentially significant impacts to the species during construction to levels that are less than significant. If nesting habitat of special status bird species will be impacted, project construction shall be scheduled outside of the breeding season, or a pre-construction survey shall be conducted to identify nests and to establish a buffer zone between the construction area and identified nests to avoid construction impacts.

However, depending on the location of sensitive resources and/or construction schedule requirements, project redesign and/or construction phasing that avoids biological resources while still meeting the project objective may be infeasible. Therefore, if avoidance is not feasible, the following measures shall be detailed and disclosed in second tier CEQA document and implemented under the direction of a qualified biologist:

- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; or

- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the project; or
- Compensating for the impact by replacing or providing substitute resources or environments.

If avoidance of impacts to listed species is not feasible, then consultation with the USFWS shall be required for federally-listed species and consultation with the CDFG shall be required for state-listed species. As relevant, a special status plant mitigation program shall be developed following focused surveys and submitted to the appropriate agencies for review.

Mitigation Measure CD-B3

Applicable Project:	San Gabriel River Discovery Center, Lario Creek and El Dorado Regional Park
Impact:	Impacts on least Bell's vireo nests or nesting behavior during construction
Timing:	During project construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction monitoring by a qualified biologist

Since least Bell's vireos are known to occur in the vicinity of the San Gabriel River Discovery Center, Lario Creek, and El Dorado Regional Park, the following mitigation measure shall be implemented to reduce impacts on this Endangered species:

To the extent feasible, no construction shall occur within the project site during the nesting season for least Bell's vireo (March 15 to September 1). However, if construction work is necessary between March 15 and September 1, a qualified biologist shall survey suitable habitat within the impact area, plus 1,000 feet (300 meters) on either side of the impact area, to identify the presence of any least Bell's vireo. No construction activities shall occur within 1,000 feet of a least Bell's vireo territory until the end of the nesting season (September 1) or when the least Bell's vireo departs the area, as determined by the biologist and with confirmation from the USFWS. The biological monitor shall use their discretion to increase the distance from vireo territory that construction can occur (in excess of 1,000 feet) or to limit use of the noisiest equipment to outside the nesting season if deemed necessary based on the type of construction equipment to be used.

Mitigation Measure CD-B4

Applicable Project:	San Gabriel River Discovery Center, Lario Creek and El Dorado Regional Park
Impact:	Construction impacts on nesting birds (e.g., raptors)
Timing:	During project construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of project plans and specifications Construction monitoring by a qualified biologist

The following mitigation measure shall be implemented to avoid raptor impacts: One week prior to construction and clearing activities that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February through August), a survey shall be conducted by a qualified biologist to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present within 300 feet (within 500 feet for raptors) of the construction zone. Construction can proceed if no active avian nests are located during this survey. If an active nest is found during the survey, a 500-foot (this distance may vary depending on the bird species and construction activity, as determined by the biologist) fence barrier shall be erected around the nest site. Clearing and construction within the fenced area shall be postponed or halted, at the discretion of the biologist, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. The biologist shall serve as a construction monitor during those periods when construction activities may occur near active nests to ensure that no inadvertent impacts on these nests occur. Results of the raptor survey and any subsequent monitoring shall be provided to the CDFG and any other appropriate agency.

Mitigation Measure CD-B5

Applicable Project:	All Concept Design Studies involving landscaping
Impact:	Impacts on native habitat
Timing:	During project design and construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction inspection

Landscaping of surrounding vegetation shall not include any invasive plant species as listed on the California Invasive Plant Council Pest Plant List.

Mitigation Measure CD-B6

Applicable Project:	All Concept Design Studies involving use of night lighting
Impact:	Impacts on nocturnal and crepuscular wildlife
Timing:	During project design and construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction inspection

Night lighting is expected to be used in public areas for health and safety reasons. Lighting would inadvertently affect the behavior patterns of nocturnal and crepuscular (active at dawn and dusk) wildlife at these areas. Of greatest concern is the effect on small ground-dwelling animals that use the darkness to hide from predators, and on owls that are specialized night foragers. To reduce light impacts on nocturnal and crepuscular wildlife, night lighting shall be low intensity directional lighting focused away from open space areas.

Mitigation Measure CD-B7

Applicable Project:	All Concept Design Studies that involve recreational uses near habitat areas
Impact:	Disturbance of habitat areas
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review management plan Review plans and specifications.

An appropriate plan for the management of native habitats shall accompany each Concept Design Study site to reduce impacts from human uses (e.g., riding, hiking, biking) on habitat areas. The management plan shall include access points including parking and restrooms, signage for trails and restricted uses, appropriate fencing, and restrictions on domestic animals. This plan shall be written by a qualified biologist and approved by the sponsoring agency prior to initiation of site development.

3.3 CULTURAL RESOURCES

Mitigation Measure CD-C1

Applicable Project:	San Gabriel Canyon Spreading Grounds
Impact:	Construction impacts on buried cultural resources
Timing:	During project construction (first day of subsurface work)
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Monitoring by a professional monitor qualified in historical archaeology

On the first day of subsurface work at the San Gabriel Canyon Spreading Grounds, a professional monitor qualified in historical archaeology shall be present to assess whether further monitoring might be warranted. Further monitoring may be required if subsurface cultural material was uncovered on the first day of earthwork and/or if the monitor determined that there was a high probability of additional subsurface cultural materials being encountered.

Mitigation Measure CD-C2

Applicable Project:	San Gabriel River Discovery Center
Impact:	Construction impacts on buried cultural resources
Timing:	During project construction (subsurface work between the surface and 5 feet (or more as determined by the monitor))
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Monitoring by a professional monitor qualified in historical archaeology

A professional monitor qualified in historical archaeology shall be present at the San Gabriel River Discovery Center for subsurface work between the surface and 5 feet (or more as determined by the monitor based on soil conditions) in depth. If potentially important cultural deposits are encountered in the course of construction, work shall be temporarily diverted from the vicinity of the discovery until the monitoring archaeologist can identify and evaluate the importance of the find and conduct any appropriate assessment and activities, as necessary.

Mitigation Measure CD-C3

Applicable Project:	San Gabriel River Discovery Center
Impact:	Replacement of the Nature Center building
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of cultural resources report Review of project plans and specifications

During the design phase of the San Gabriel River Discovery Center, the project proponent shall evaluate whether the Nature Center building is a significant historical resource using the criteria described in Section 15064.5(a) of the State CEQA Guidelines. If it is determined to be a significant historical resource, the lead agency shall:

- Remove and relocate the building or historically significant portion of the building to an appropriate location, or
- Incorporate the historically significant elements of the existing building into the new Discovery Center.

Mitigation Measure CD-C4

Applicable Project:	Lario Creek
Impact:	Construction impacts on potential cultural resources identified during the records search and field reconnaissance
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of historical resources report (if applicable) Review of project plans and specifications

During the design phase of Lario Creek, LADPW shall evaluate if the project can be designed to avoid the structures identified in Section 4.3.1.4 of the Final Program EIR (locate the proposed structures or site disturbance at least 100 meters away from or around the structures).

If avoidance is not feasible for one or more of the structures, the structure's significance shall be evaluated, using the criteria listed in CEQA Guidelines Section 15064.5[a]. Results of this evaluation would be disclosed in second-tier environmental documentation.

If the resource is found to be significant, the significance of project impacts on the resource shall be determined. (Significant change to a resource includes demolition, replacement, substantial alteration, or relocation (California Code of Regulations [CCR] Section 15064.5)). If feasible, the significant resource(s) shall be avoided.

If project impacts are determined to be significant, LADPW shall:

- Incorporate the resource into the project design, or
- Remove and relocate the resource to an appropriate location (e.g., museum, public library, or school)

Mitigation Measure CD-C5

Applicable Project:	Lario Creek
Impact:	Construction impacts on buried cultural resources
Timing:	During project construction (subsurface work between the surface and 5 feet (or more as determined by the monitor))
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Monitoring by a professional monitor qualified in historical archaeology

A professional monitor qualified in historical archaeology shall be present at the Lario Creek project site for subsurface work between the surface and 5 feet (or more as determined by the monitor based on soil conditions) in depth. If potentially important cultural deposits are encountered in the course of construction, work shall be temporarily diverted from the vicinity of the discovery until the monitoring archaeologist can identify and evaluate the importance of the find and conduct any appropriate assessment and activities, as necessary.

Mitigation Measure CD-C6

Applicable Project:	El Dorado Regional Park
Impact:	Construction impacts on buried cultural resources
Timing:	During project construction (first day of subsurface work)
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Monitoring by a professional monitor qualified in historical archaeology

On the first day of subsurface work at El Dorado Regional Park, a professional monitor qualified in historical archaeology shall be present to assess whether further monitoring might be warranted.

Mitigation Measure CD-C7

Applicable Project:	Woodland Duck Farm
Impact:	Construction impact on historic structures
Timing:	During project design
Party Responsible for Implementation:	Watershed Conservation Authority
Agency Responsible for Monitoring:	Watershed Conservation Authority
Monitoring Method:	Review of cultural resources report, if applicable Review of project plans and specifications

During the design phase of Woodland Duck Farm, the Watershed Conservation Authority (WCA) shall evaluate if any onsite structures that are 45 years and older may be affected by the project.

For each structure that is 45 years and older and shall be affected by the project, the structure's significance shall be evaluated by a professional architectural historian, using the criteria listed in CEQA Guidelines Section 15064.5[a]. Results of this evaluation would be disclosed in second-tier environmental documentation.

If the resource is found to be significant, the significance of project impacts on the resource shall be determined. (Significant change to a resource includes demolition, replacement, substantial alteration, or relocation (CCR Section 15064.5)).

If project impacts are determined to be significant, the relevant resources shall be:

- Incorporated into the project design, or
- Removed and relocated to an appropriate location (e.g., museum, public library, or school)

Mitigation Measure CD-C8

Applicable Project:	All Concept Design Studies
Impact:	Construction impact on buried cultural resources
Timing:	During project construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of construction reports

If previously unknown cultural resources are discovered in the course of excavation for project construction, the construction inspector shall have the authority and responsibility to halt construction until a qualified archaeologist can evaluate the significance and distribution of the materials, and identify future activities needed. If the cultural material discovered is determined to be of potential archaeological significance, the investigation and future activities shall be conducted in consultation with a culturally affiliated Native American or other parties, as necessary.

Mitigation Measure CD-C9

Applicable Project:	All Concept Design Studies
Impact:	Construction impact on buried human remains
Timing:	During project construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of construction reports

If human remains are discovered in the course of excavation for project construction, the County Coroner shall be contacted and provisions of State CEQA Guidelines Section 15064.5 shall be followed.

3.4 GEOLOGY AND SOILS

Mitigation Measure CD-G1

Applicable Project:	Woodland Duck Farm, San Gabriel River Discovery Center, Lario Creek, and El Dorado Regional Park
Impact:	Impacts related to liquefaction potential from proposed stormwater infiltration
Timing:	During project design and operation
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of geotechnical report Review of plans and specifications Review of groundwater monitoring reports

Prior to construction, conduct a geotechnical investigation to define site-specific subsurface conditions, including determination of site-specific groundwater levels and soil conditions to evaluate the potential for liquefaction onsite or at adjacent properties. Based on the results of the geotechnical analysis, the potential increase in liquefaction potential from the proposed infiltration shall be evaluated. Factors that should be considered include the capacity of the infiltration facility and the associated amount of water proposed for infiltration, infiltration rate, proximity and types of nearby structures that could be damaged from liquefaction, and infiltration at adjacent spreading grounds, if any.

If the project is determined to have the potential to cause groundwater levels to rise within 30 feet of the surface, new monitoring wells and/or existing wells in the project area shall be used to detect any substantial increase in groundwater levels. If monitoring indicates a substantial rise in groundwater levels that could impact adjacent structures, stormwater would not be infiltrated and would be diverted into storm drains or onto street surfaces with sufficient capacity. Re-diversion of storm flows will be in compliance with the applicable provisions of the relevant NPDES municipal stormwater permits.

Mitigation Measure CD-G2

Applicable Project:	San Gabriel River Discovery Center
Impact:	Impacts on habitable structures related to expansive soils
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of geotechnical report Review of project plans and specifications

During facility design, evaluate site soils to determine the area and thickness of expansive soils. If expansive soils are found, one or more of the following measures shall be specified in the construction plans to minimize potential hazards associated with expansive soils:

- Replacement of expansive soils with granular non-expansive soils, or
- Treatment of expansive soils with lime to reduce expansivity, or
- Other appropriate geotechnical practices.

These measures that mitigate for expansive soils shall be incorporated into the construction documents.

3.5 HAZARDS AND HAZARDOUS MATERIALS

Mitigation Measure CD-H1

Applicable Project:	San Gabriel Canyon Spreading Grounds, Woodland Duck Farm, San Gabriel River Discovery Center, Lario Creek, and El Dorado Regional Park
Impact:	Public health impacts related to potential increase in mosquito habitat
Timing:	During project design and operation
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review documentation of consultation with applicable vector control district Review of project plans and specifications Review of operations and maintenance plans

Project plans and designs shall be submitted to the applicable vector control agency (SGVMVCD for San Gabriel Canyon Spreading Grounds and Woodland Duck Farm and GLAVCD for San Gabriel River Discovery Center, Lario Creek, and El Dorado Regional Park) for review and comment with respect to control of mosquito and other vectors. Upon consultation with the vector control agency, appropriate vector management measures shall be incorporated into the project design. Potential management measures include the following:

- Design to minimize and/or provide periodic removal of vegetation on bank slopes and periphery of water bodies to minimize areas of stagnant water.
- Design and/or manage to optimize water depths and flow pattern. For mosquito control, maintain water depths and encourage/provide water circulation. For black fly control, minimize aeration of flowing water. If necessary, design water features to allow for periodical drying to desiccate vector larvae.
- Work with the vector control agency to stock ponds and other permanent water features with mosquito-eating fish as needed.
- Provide site access to vector control agency specifications (e.g., dikes with access roads or trails) to potential breeding areas for maintenance (e.g., vegetation removal) and treatment (e.g., application of Bti or other larvicides).
- Design stormwater retention facilities/devices to drain completely within 72 hours, or design with the capability to be dewatered rapidly if needed for vector control.

- Incorporate measures into project designs that serve to educate the public about wildlife safety and vector-borne disease issues, prevent wildlife-human interactions, and prevent wildlife access to trash and unnatural food and water sources that are likely to result in unnatural population levels.
- Design underground utility vaults, if needed for project implementation, to prevent retention of standing water thereby reducing vector breeding habitat.
- Regularly consult with the vector control agency to identify mosquito management problems, mosquito monitoring and abatement procedures, and opportunities to adjust water and vegetation management practices to reduce mosquito production.
- Incorporate funding for vector management activities into project funding or implement a secure and reliable funding source for vector management activities.

Mitigation Measure CD-H2

Applicable Project:	Woodland Duck Farm and El Dorado Regional Park
Impact:	Impacts related to potential increase in bird/wildlife air strike hazard at nearby airports
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review documentation of consultation with applicable airport Review of project plans and specifications

During the detailed design phase, FAA Western Pacific Regional Office and El Monte Airport (for Woodland Duck Farm) and Long Beach Airport (for El Dorado Regional Park) shall be notified of the proposed land use change to recognize potentially significant hazards early in the planning process and avoid or minimize the hazards.

3.6 HYDROLOGY AND WATER QUALITY

Mitigation Measure CD-W1

Applicable Project:	All Concept Design Studies
Impact:	Discharge of polluted stormwater runoff during project construction
Timing:	During project design and construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of SWPPP Construction inspection

Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for projects that involve constructing, clearing, grading or excavation on areas over 1 acre in size to minimize the amount of runoff and associated pollutants (e.g., sediments) leaving the construction site by containing the runoff onsite, containing the sediments onsite, and/or minimizing the potential for

stormwater to come in contact with pollutants. The following are possible measures to be incorporated into site-specific SWPPPs. Additional sample measures and guidelines for developing SWPPPs are available in California Stormwater Quality Association's *Stormwater Best Management Practice Handbook – Construction* (CASQA, 2003). Measures to reduce fugitive dust generated during construction (see **Section 4.1.5 – Air Quality**) will also minimize the potential for soil erosion.

- Install perimeter silt fences or hay bales.
- Stabilize soils through hydroseeding with native plant species where possible and use of soil stabilizers.
- Install temporary sedimentation basins.
- Conduct earth moving activities during the dry season (April through October), as feasible.
- Designate storage areas for construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) to keep these materials out of the rain and minimize contact with stormwater.
- Conduct regular inspections to ensure compliance with the SWPPP.

Mitigation Measure CD-W2

Applicable Project:	All Concept Design Studies
Impact:	Discharge of chemical pesticide/herbicide
Timing:	Prior to project design and construction and operation
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction inspection Review of operations and maintenance plan

For projects involving landscaping, habitat restoration, and/or removal of exotic plant species, select biological or non-chemical means of controlling exotics and pests unless not feasible because biological or non-chemical controls are not readily available for the specific exotics to be controlled. If chemical pesticide or herbicide use is necessary, compounds that are less persistent in the environment shall be selected, and application shall be conducted in accordance with manufacturers' recommendations and general standards of use, e.g., restricted application before and during rain storms.

Mitigation Measure CD-W3

Applicable Project:	Woodland Duck Farm, Lario Creek, the San Gabriel River Discovery Center, and El Dorado Regional Park
Impact:	Groundwater quality and hazardous materials impacts related to potential soil contamination at project sites
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review Phase I ESA report (and reports from additional investigation, if any) Review of project plans and specifications

For projects involving substantial ground disturbance, conduct a Phase I Environmental Site Assessment (ESA) to determine the site-specific potential for soil contamination. The Phase I ESA shall be conducted in accordance with the latest version of the American Society of Testing and Materials (ASTM) 1527 "Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process." This document outlines the customary practice for performing ESA's in the United States. Phase I ESA shall consist of a review of site-specific documents and historical maps to determine past uses of the site, a site visit to visually inspect the property for signs of potential environmental contamination, and investigation of state and federal environmental regulatory databases to identify recognized hazardous materials usage or spills. For project sites with infiltration, the boundary of the Phase I ESA shall include parcels located within 500 feet of the project site boundary to identify active or abandoned landfills or other land uses with the potential for contaminated soils which would be incompatible with infiltration (to be cross-referenced with Mitigation Measure CD-W4). If the Phase I ESA concludes that there is no substantial potential for soil contamination, no further action would be required. If the Phase I ESA indicates that there is potential for soil to be contaminated, additional investigation (Phase II ESA, including soil sampling and analysis) shall be conducted to determine the presence and extent of the contamination. If the proposed project would involve disturbance of soil in the contaminated area, soil would be removed and disposed of in compliance with applicable regulations at approved disposal sites.

Mitigation Measure CD-W4

Applicable Project:	Concept Design Study located within 500 feet of an active or closed landfill
Impact:	Groundwater hydrology impacts (potential inundation of landfill material or other contaminant sources and potential interference with ongoing cleanup of existing contamination plumes in the San Gabriel Valley)
Timing:	During project design and operation (as applicable)
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of Phase I ESA (and geotechnical study if applicable) Review of project plans and specifications Review of groundwater monitoring reports

If the site-specific Phase I ESA (Mitigation Measure CD-W3) indicates that an active or closed landfill (either municipal solid waste or inert construction waste) is located within 500 feet of the project site boundary, then a site-specific geotechnical study shall be conducted to: 1) characterize the extent and composition of landfill materials; 2) determine whether the landfill materials are releasing methane; 3) and estimate the potential mounding effect from the proposed stormwater infiltration. The results of the geotechnical study shall be incorporated into the project design to minimize the potential for project infiltration to result in interaction between infiltrated stormwater and landfill materials or to impact landfill gas releases, if any. Potential design modifications include siting the infiltration facilities away from the landfill and/or partially lining the facilities to direct infiltration away from the landfill. For sites with stormwater infiltration within 500 feet of an active or closed landfill, a groundwater monitoring program shall be developed and implemented to ensure that infiltration does not result in interaction between infiltrated stormwater and landfilled materials or impact landfill gas releases. Infiltration would cease at any site where groundwater levels rose to within 10 feet of landfilled materials to prevent interaction of infiltrated water with landfill materials.

Mitigation Measure CD-W5

Applicable Project:	Concept Design Studies that involve stormwater infiltration (Woodland Duck Farm, Lario Creek, the San Gabriel River Discovery Center, and El Dorado Regional Park)
Impact:	Impact on groundwater quality from infiltration of polluted stormwater
Timing:	During project design and operation
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Review of vadose zone and groundwater monitoring reports

For projects that involve stormwater infiltration, conduct vadose zone and groundwater quality monitoring. If monitoring results indicate substantial water quality degradation, pursue the following general strategy:

- Provide additional treatment prior to infiltration, or
- Redesign project to reduce or eliminate infiltration (e.g., lining), or
- Identify an alternative water source (e.g., reclaimed water).

Mitigation Measure CD-W6

Applicable Project:	El Dorado Regional Park
Impact:	Discharge of sediment during construction of in-channel improvements
Timing:	During project design and construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction inspection

For projects involving channel modifications, COE, Regional Board, U.S. Fish and Wildlife Service, and California Department of Fish and Game shall be consulted. All necessary federal and state approvals (including CWA Section 404 permits, CWA Section 401 water quality certifications or waivers, and California Fish and Game Code Section 1602 Streambed Alteration Agreements) shall be obtained prior to the implementation of construction activities. Any conditions of agency approvals (e.g., measures to minimize the potential water quality impacts associated with the channel modification) shall be incorporated into the project design. Water quality mitigation options for use during construction of in-channel improvements include diversion of flows around the construction site, installation of in-stream silt curtains, or use of off-channel sediment retention ponds or tanks.

3.7 NOISE

Mitigation Measures CD-N1 through CD-N4

Applicable Project:	All Concept Design Studies
Impact:	Construction noise impact on sensitive receptors
Timing:	During project design and construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction inspection

CD-N1 Limit construction activities to the hours allowed by the applicable jurisdiction's noise ordinance (City of Azusa for San Gabriel Canyon Spreading Grounds; County of Los Angeles for Woodland Duck Farm, San Gabriel River Discovery Center, and Lario Creek; and City of Long Beach for El Dorado Regional Park).

CD-N2 Equip all mobile construction equipment with properly operating mufflers or other noise reduction devices.

CD-N3 Notify businesses and residences immediately adjacent to the construction site prior to the start of construction (e.g., via flyers). Include a telephone number for noise complaints in this notification.

CD-N4 Prior to the start of construction of the project, require the construction contractor to develop a site-specific noise mitigation plan based on an updated estimate of construction equipment and schedule. One or more of the following measures shall be implemented as applicable to reduce noise levels to meet the relevant jurisdiction's construction noise standards:

- Install temporary sound walls, sound curtains, or other temporary sound barriers
- Select quieter construction procedures and/or equipment

3.8 PUBLIC SERVICES AND UTILITIES

Mitigation Measures CD-P1 through CD-P3

Applicable Project:	All Concept Design Studies
Impact:	Construction impact on police and fire protection services from temporary lane and/or road closures during construction of storm drains, etc.
Timing:	Prior to start of construction and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Review of documentation of consultation with relevant service providers Construction inspection

CD-P1 Prior to the start of construction, consult the fire station(s) serving the project area and review phasing, road/lane closure, and detour plans. The fire station(s) may then identify alternative fire and emergency medical response routes.

CD-P2 Prior to the start of construction, consult the police station(s) serving the project area, as appropriate, of project-related lane and/or road closures and detour plans. The police station(s) may then identify alternative police emergency response routes.

CD-P3 If determined to be necessary by the relevant police and/or fire service providers, implement one or more of the following applicable traffic control measures capable of reducing the temporary adverse effects to police and emergency vehicle travel during project construction:

- Use flagmen to direct traffic
- Post "No Parking" signs along the affected area
- Install temporary signals or signs to direct traffic
- Other equivalent traffic control measures

Mitigation Measures CD-P4 and CD-P5

Applicable Project:	San Gabriel River Discovery Center and Lario Creek
Impact:	Construction impact on school access and student safety
Timing:	Prior to start of construction and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review documentation of consultation with applicable school administrators Review project plans and specifications Construction inspection

CD-P4 Prior to project construction, contact school administrators to provide sufficient notice to forewarn school bus operators, children, and parents when existing pedestrian and vehicular routes to school will be affected. As necessary to protect the safety of children, parents and employees accessing the school, one or more of the following measures shall be implemented in coordination with the school administrators:

- Develop temporary alternative pedestrian and vehicular routes to the school that avoid construction areas
- Install appropriate temporary traffic controls (signs, crossing guards, and/or signals) as needed to ensure pedestrian and vehicular safety
- Minimize use of haul routes past the school when school is in session
- Prohibit parking or staging of construction or worker vehicles on streets adjacent to the school.

CD-P5 Secure all construction areas adjacent to the school, including trench areas, operating equipment areas and equipment staging and stockpile areas, through fencing or other barriers to prevent trespassing and reduce hazards to children and other pedestrians.

Mitigation Measure CD-P6

Applicable Project:	Woodland Duck Farm, Lario Creek, San Gabriel River Discovery Center, and El Dorado Regional Park
Impact:	Construction impact on school commuting routes from temporary lane and/or road closures
Timing:	Prior to start of construction and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review documentation of consultation with applicable school administrators Review project plans and specifications

Notify the applicable school district of the expected start and end dates for various portions of the project that may affect traffic in the area and any potential impact on existing school bus routes to facilitate identification of alternative routes and minimize unexpected delays in commuting to the school.

Mitigation Measure CD-P7

Applicable Project:	All Concept Design Studies
Impact:	Potential interference with existing utilities within street rights-of-way from construction of storm drains, etc.
Timing:	During project design, prior to start of construction, and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review documentation of consultation with applicable utility providers Review documentation of notification to residents and businesses, if applicable Review project plans and specifications

During design of each project component, consult the applicable utility service provider(s) to identify existing and proposed buried facilities in affected roadways and to determine which utilities require relocation and which can be avoided. If results of the consultation indicate that project construction could affect buried facilities, one or more of the following measures shall be implemented as applicable:

- If relocation is required, sequence construction activities to avoid or minimize interruptions in service.
- If utility service disruption is necessary, notify residents and businesses in the project area a minimum of 2 to 4 days prior to service disruption through local newspapers, direct mailings to affected parties, or public posting of notices.
- If project construction would occur near existing utilities, require the contractor to excavate around utilities, including hand excavation as necessary, to avoid damage and to minimize interference with safe operation and use. Hand tools must be used to expose the exact location of buried gas or electric utilities.

Mitigation Measure CD-P8

Applicable Project:	All Concept Design Studies
Impact:	Impact on landfill capacity from generation of solid waste during construction
Timing:	Prior to start of construction and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of project plans and specifications Construction inspection

State in the plans and specifications for the proposed project that the construction contractor is required to identify and implement one or more of the following applicable programs for minimizing solid waste generated during construction:

- Recycling of asphalt and concrete paving materials
- Reuse and composting of green waste materials where there is limited potential for inadvertent spreading of invasive plants
- Balance graded soil on site to the maximum extent feasible

Mitigation Measure CD-P9

Applicable Project:	All Concept Design Studies
Impact:	Impact on solid waste collection routes from temporary lane and/or road closures during construction of storm drains, etc.
Timing:	Prior to construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review documentation of consultation with relevant municipality

Prior to construction, notify the relevant municipality of the construction schedule and planned lane or road closures. The municipality or agency may then modify the solid waste collection routes and access in the area.

Mitigation Measure CD-P10

Applicable Project:	Woodland Duck Farm and El Dorado Regional Park
Impact:	Operational impact on power line towers from stormwater infiltration
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review geotechnical report Review project plans and specifications

During design of the facility, conduct a geotechnical investigation to assess the characteristics and stability of the soil around the power line towers. If results of the investigation indicate that stormwater infiltration may saturate the soil and affect the stability of the towers, one or more of the following changes shall be incorporated into the site design as applicable:

- Site the proposed retention basins to avoid the towers, if possible, or construct a series of drywells so that water would be infiltrated deeper into the ground to avoid saturation of surface soils.
- Install a liner along the sideslope of the basin closest to the power line towers to prevent infiltration. (The liner would cover only a small portion of the infiltration basin.)

3.9 TRANSPORTATION AND TRAFFIC

Mitigation Measures CD-T1 through CD-T7

Applicable Project:	All Concept Design Studies
Impact:	Traffic impacts during project construction
Timing:	Prior to and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review construction traffic management plan and construction area traffic control plan / detour plan, as applicable Review project plans and specifications Construction inspection

CD-T1 A construction traffic management plan shall be developed for each project site that shall include but not be limited to such measures as designated haul routes for construction-related traffic (e.g., construction equipment, pickup and dump trucks, and other material delivery trucks), travel time restrictions for construction-related traffic to avoid weekday peak periods on selected roadways, designated site access locations, driveway turning restrictions, temporary traffic controls and/or flaggers, and designated parking/staging locations for workers and equipment.

CD-T2 A construction area traffic control plan and/or detour plan shall be prepared for any location where construction activities would encroach into the right-of-way of a public roadway. The plan would include, but not be limited to such features as warning signs, lights, barricades, cones, lane closures, and restricted hours during which lane closures would not be allowed (e.g., 6:00 to 9:00 a.m. and 3:00 to 6:00 p.m., or as directed by the affected public agency).

CD-T3 Provide advance notification to affected property owners, businesses, residents, etc. of possible driveway blockages or other access obstructions and implement alternate access and parking provisions where necessary.

CD-T4 Provide alternative pedestrian and bicycle access/circulation routes if existing facilities such as sidewalks, crosswalks, and bike lanes would be obstructed to ensure safe pedestrian/bicycle travel.

CD-T5 Coordinate with emergency service providers (police, fire, and ambulance/paramedic agencies) prior to construction to provide information regarding lane closures, construction schedules, driveway blockages, etc., if any, and develop a plan to maintain or accommodate essential emergency access routes (e.g., plating over excavations and use of detours).

CD-T6 Coordinate with public transit agencies (e.g., MTA) to provide information regarding lane closures, bus stop disruptions, etc. so that MTA or relevant agency can designate alternate pick-up/drop-off locations, if appropriate, and provide for uninterrupted service.

CD-T7 As necessary, obtain a transportation permit from Caltrans for transportation of heavy construction equipment and/or materials which requires the use of oversized-transport vehicles on State highways.