

**COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS**

**Programmatic Mitigation Monitoring and
Reporting Program**

San Gabriel River Corridor Master Plan

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Section 1

Introduction

This Mitigation Monitoring and Reporting Program (MMRP) has been developed to ensure implementation of the mitigation measures outlined in the Final Program Environmental Impact Report (Program EIR) (State Clearinghouse No. 2003041187) for the San Gabriel River Corridor Master Plan (Master Plan). The MMRP has been prepared by the County of Los Angeles Department of Public Works (LADPW), the lead agency for the Master Plan under the California Environmental Quality Act (CEQA), in conformance with Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097.

Project Description Summary. The proposed project area is a 1-mile wide corridor along 58 river miles of the San Gabriel River from its headwaters in the San Gabriel Mountains to its terminus at the Pacific Ocean between Long Beach and Seal Beach. (This study area provides a necessary focus for the Master Plan but is not meant to be a totally exclusive boundary. Some projects and programs located nearby but outside the 1-mile wide study area are included if they are designed to contribute to the vision and goals of the Master Plan.) The project area includes 19 cities as well as unincorporated areas of Los Angeles and Orange counties, and encompasses a total of approximately 58 square miles. The Master Plan is a consensus-based document that recognizes and addresses a renewed interest in recreation, open space, and habitat, while also seeking to enhance and maintain flood protection, water conservation benefits, along with existing water rights. The Master Plan identifies over 130 projects along the San Gabriel River that are visions of cities and other stakeholder organizations and incorporate one or more of the Master Plan goals. The Master Plan provides policies and guidelines to help coordinate these independent projects and to facilitate the achievement of the shared vision and goals for the San Gabriel River corridor.

In addition, the Master Plan identifies five Concept Design Studies that highlight how project planning can address multiple goals of the Master Plan. The Concept Design Studies were defined to illustrate the types of multi-purpose projects to be fostered by the Master Plan. The conceptual project descriptions presented in the Master Plan are the result of a Steering Committee exercise to help provide tangible examples of how the Master Plan multi-objective approach might apply to projects in the San Gabriel River corridor. These studies are intended for illustration purposes only and do not necessarily reflect the intent of the project sponsors. Environmental analysis in this Program EIR is based on the conceptual project descriptions in the Master Plan. For each of these sites, the actual planning process by project sponsors still needs to be carried out or is ongoing, including appropriate public involvement and CEQA compliance.

Mitigation Monitoring and Reporting Responsibility. The Master Plan is a set of policies and actions to increase open space, habitat, and recreation opportunities in the San Gabriel River corridor. This EIR has been prepared as a Program EIR to consider the environmental impacts, mitigation measures and alternatives of the proposed Master Plan as a whole. As Master Plan

projects are proposed for implementation, project proponents will prepare a second-tier CEQA document (a Negative Declaration or an EIR) for each project.

LADPW will use this MMRP for implementation of mitigation measures associated with the County-sponsored Concept Design Studies (San Gabriel Canyon Spreading Grounds and Lario Creek) and other future County-sponsored Master Plan projects. Other municipalities and agencies may also use this MMRP, with modifications as necessary, for future Master Plan projects over which they have approval authority.

This MMRP is divided into two sections. Section 2 includes the Master Plan Mitigation Measures, which apply to future Master Plan projects (other than Concept Design Studies). Section 3 includes the mitigation measures for the Concept Design Studies. The project proponents and agencies anticipated to be the CEQA lead agencies for the Concept Design Studies are shown below:

Concept Design Study	Project Proponent	CEQA lead agency
San Gabriel Canyon Spreading Grounds	LADPW	LADPW
Woodland Duck Farm	WCA	WCA
San Gabriel River Discovery Center	Upper San Gabriel Valley Municipal Water District, County of Los Angeles Department of Parks and Recreation, and RMC	Joint Project Authority (to be defined)
Lario Creek	LADPW and Northeast Trees	LADPW
El Dorado Regional Park	City of Long Beach	City of Long Beach

WCA: Watershed Conservation Authority

Section 2

Master Plan Mitigation Measures

2.1 AIR QUALITY

Mitigation Measure MP-A1

Applicable Project Type:	Projects that involve use of heavy equipment and vehicles during construction
Impact:	Air pollutant emissions from use of construction equipment and vehicles
Timing:	Evaluation: During project design Implementation of pollution control measures: During construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of second-tier CEQA document Construction inspection

Evaluations of air quality impacts during project construction will be conducted as follows during site-specific environmental review of each future Master Plan project:

1. Based on the site-specific project description, the following should be determined:
 - Acreage of site disturbance that would occur during excavation, grading, and/or filling
 - List of necessary construction equipment (number, type, hours of operation per day, and number of days in operation for each phase of construction)
 - Length of construction period
 - Number of construction workers and vehicles
2. Based on the above information, and using the latest version of the SCAQMD CEQA Handbook, construction emissions will then be estimated and compared to the thresholds of significance.
3. If the estimated construction emissions exceed the SCAQMD threshold of significance for fugitive dust, then one or more of the following dust control measures will be implemented as applicable:
 - Clean dirt from construction vehicle tires and undercarriages when leaving the construction site and before entering local roadways.
 - During earth-moving activities, water the construction area as necessary, but at least twice per day.
 - Water temporary open storage piles once per hour or install temporary covers.
 - 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

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regulatory agencies such as the U.S. Army Corps of Engineers and the California Department of Fish and Game.)

- Limit construction vehicle speed on the project site to 15 miles per hour (mph) or less.
 - Cover dirt in trucks during on-road hauling.
 - 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.
 - Sweep streets near the construction area at the end of the day if visible soil material is present.
 - For applicable construction areas, establish a vegetative groundcover as soon as feasible after active operations have ceased. Groundcover will be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting.
 - 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) will 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 will be implemented.
4. If the estimated construction emissions exceed the SCAQMD threshold of significance for CO, ROC, NO_x, SO_x, then one or more of the following measures will be implemented:
- Prohibit all vehicles from idling in excess of 10 minutes, both on and off-site.
 - Maintain construction equipment in proper tune.
 - 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.

To further reduce tailpipe emissions from construction equipment, implementation of the following optional measure will be considered at the time of construction of individual projects. Aside from fugitive dust, the majority of construction emissions, particularly for NO_x, are generally 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)).

- 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 MP-A2

Applicable Project Type:	Projects that involve vehicle trips or equipment operation during operation of the proposed facilities
Impact:	Air pollutant emissions from use of equipment and vehicles during project operation
Timing:	Evaluation: During project design Implementation of pollution control measures: During project operation
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of second-tier CEQA document Review of equipment selection at project implementation Review of operations and maintenance plans

Evaluations of air quality impacts during project operation will be conducted as follows during site-specific environmental review of each future Master Plan project:

1. Based on the site-specific project description, the number of vehicle trips that would be generated by operation of proposed facilities (e.g., ongoing maintenance activities and/or visitors to recreational or educational facilities) will be estimated, and air emissions associated with those vehicle trips will be determined. If project operation involves use of electricity (e.g., lighting for parks, education center or park buildings, pumps, etc.), air emissions associated with electricity consumption will be estimated.
2. Based on the above information, and using the latest version of the SCAQMD CEQA Handbook, operational emissions will be compared to the thresholds of significance.
3. One or more of the following measures will be implemented as applicable to reduce air emissions:
 - Implement dust control if dry conditions and substantial area is disturbed for operations and maintenance activities that involve ground disturbance.
 - 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.
 - Select low-emissions equipment and vehicles for operations and maintenance to reduce tailpipe emissions.
 - Implement an employee ride-share plan to reduce vehicle trips to the facility and associated tailpipe emissions.

Section 2 – Master Plan Mitigation Measures

2.2 BIOLOGICAL RESOURCES

Mitigation Measure MP-B1

Applicable Project Type:	Projects involving site disturbance in areas with potential biological resources
Impact:	Impacts on special status species or high-value vegetation types
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 biological study report Review project plans and specifications Construction inspection Review documentation of agency consultations (as applicable)

Site-specific evaluations for biological resources will be conducted prior to completion of detailed design plans for each of the future projects to determine the presence of high-value vegetation types and the potential for special status plant and wildlife species to occur. The following tasks will be completed by these evaluations:

1. Identify and determine the extent of site disturbance proposed by the project. For sites where biological resources have any potential to be sensitive, continue evaluation as outlined below.
2. General plant and wildlife surveys will be performed by a qualified biologist to determine if any focused surveys for special status species are necessary. If the general surveys indicate that there is potential for sensitive plant or wildlife species to occur on the project site, focused surveys will be conducted for those species in accordance with relevant protocols at the appropriate time of the year.
3. If any special status species or high-value vegetation types are identified, the proposed facilities will be designed and/or sited to avoid disturbance and loss of the sensitive resources. If nesting habitat of special status bird species will be impacted, project construction will be scheduled outside of the breeding season if feasible. If scheduling construction outside of the breeding season is not feasible, then a pre-construction survey will be conducted to identify nests and to establish a buffer zone between the construction area and the nests to avoid construction impacts.
4. In some instances, 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 will be detailed and disclosed in second tier CEQA documentation and implemented under the direction of a qualified biologist:
 - Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; and/or

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- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the project; and/or
 - Compensating for the impact by replacing or providing substitute resources or environments.
5. 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. If special status plants are identified, a mitigation program shall be developed following focused surveys and submitted to the appropriate agencies for review.

Mitigation Measure MP-B2

Applicable Project Type:	Projects 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 plans and specifications Construction inspection

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

Mitigation Measure MP-B3

Applicable Project Type:	Projects that involve use of night lighting
Impact:	Impacts on nocturnal and crepuscular wildlife
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review plans and specifications

For projects that involve use of night lighting in public areas (e.g., parks) for health and/or safety reasons, lighting will be designed to minimize effects on the behavior patterns of nocturnal and crepuscular (active at dawn and dusk) wildlife (e.g., 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 will be low intensity directional lighting focused away from open space areas.

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Mitigation Measure MP-B4

Applicable Project Type:	Projects 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

For projects that involve recreational uses near habitat areas, a management plan to reduce impacts from human uses (e.g., riding, hiking, biking) on native habitats will be incorporated into detailed design plans. As relevant, the management plan will include access points including parking and restrooms, signage for trails and restricted uses, appropriate fencing, and restrictions on domestic animals. This plan will be written by a qualified biologist and approved by the sponsoring agency prior to initiation of site development.

2.3 CULTURAL RESOURCES

Mitigation Measure MP-C1

Applicable Project Type:	Projects involving site disturbance or modifications to existing structures
Impact:	Disturbance of cultural resources
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 plans and specifications Construction inspection

Site-specific evaluations for cultural resources will be conducted as follows prior to completion of detailed design plans for each future Master Plan project:

1. Identify and determine the extent of site disturbance and/or structural modifications proposed by the project. For sites where ground will be newly disturbed (i.e., not fill soils or previously completely disturbed sites) and/or for sites with potentially historic structures present, continue evaluation as outlined below.
2. Conduct background research to identify previous cultural resources investigations and known cultural resources relevant to the project site (review records at the South Central Coastal Information Center, contact local historical societies, the Native American Heritage Commission, etc.).
3. Conduct field reconnaissance if the project site has not been surveyed for cultural resources in the last five years.

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4. If potential resources are identified in the field reconnaissance, determine if avoidance is feasible (e.g., design project to locate the proposed structures or site disturbance away from or around the area of the potential resource; a buffer of 100 meters is recommended in most cases). If feasible, the resource shall be avoided.
5. If avoidance is not feasible, evaluate the significance of the potential resource. The evaluation process may include excavation, additional review of records and literatures, interviews, field examination by an architectural historian, and/or laboratory analysis. Based on the results of the evaluation, the significance of the potential resource should be determined using the criteria listed in Section 4.3.1.3 of the Final Program EIR.
6. If the resource is found to be significant, determine significance of project impacts on the resource. (Significant change to a resource includes demolition, replacement, substantial alteration, or relocation (California Code of Regulations [CCR] Section 15064.5)).
7. If project impacts are determined to be significant, the following measures (in order of preference) will be implemented to reduce impacts to below a level of significance:
 - Incorporating the resource into the project design (e.g., for projects involving park development or interpretive centers); or
 - Remove and relocate the resource to an appropriate location (e.g., museum, public library, or school)

The results of site-specific evaluations and detailed mitigation measures, if any, will be disclosed in subsequent CEQA documentation.

Mitigation Measure MP-C2

Applicable Project Type:	Projects involving site disturbance
Impact:	Disturbance of previously unknown buried cultural resources during project construction
Timing:	During 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.

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Mitigation Measure MP-C3

Applicable Project Type:	Projects involving site disturbance
Impact:	Disturbance of buried human remains during project construction
Timing:	During 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.

2.4 GEOLOGY AND SOILS

Mitigation Measure MP-G1

Applicable Project Type:	Projects that would result in increased infiltration (including but not limited to construction of stormwater retention/infiltration facilities, unlined wetlands, and structures designed to increase in-stream recharge (e.g., rubber dams))
Impact:	Increase in liquefaction risk due to rise in groundwater levels
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 geotechnical report Review of project plans and specifications Review groundwater monitoring reports

During facility design, a site-specific geotechnical analysis will be conducted to determine soil types and groundwater levels. Based on the results of the geotechnical analysis, the potential increase in liquefaction potential from the proposed infiltration will be evaluated. Factors that will 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 (including pipelines) 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 will 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 or routed to other stormwater management facilities as applicable.

Mitigation Measure MP-G2

Applicable Project Type:	Projects that involve reclamation of gravel mines to create parks, open space and/or stormwater retention facilities
Impact:	Slope instability
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

Site-specific evaluation of slope stability will be conducted as a part of the geotechnical analyses during design of each future Master Plan project that involves modification of a gravel mine. The recommendations of the geotechnical study will include optimum slope design for stability and safety, soil compaction or recompaction requirements, surface cover, and potentially other slope stabilizing measures. The recommendations of the geotechnical analysis will be incorporated into the detailed design of the project. The results of site-specific evaluations and detailed mitigation measures, if any, will be disclosed in subsequent CEQA documentation.

Mitigation Measure MP-G3

Applicable Project Type:	Projects that include construction of habitable structures (e.g., recreation or interpretive centers)
Impact:	Earthquake hazards for habitable structures
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

The site plan and building footprint will be reviewed by a registered professional to ensure that project siting and design provides adequate protection from geologic hazards such as fault rupture (including Alquist-Priolo Earthquake Fault Zones), expansive soils, liquefaction, and unstable slopes. If a project site is located in known high risk areas with respect to geological hazards, a site-specific geotechnical study will be performed during facility design to identify potential concerns and recommended measures to reduce hazards. Recommendations in the geotechnical study will be incorporated into the final design.

Section 2 – Master Plan Mitigation Measures

2.5 HAZARDS AND HAZARDOUS MATERIALS

Mitigation Measure MP-H1

Applicable Project Type:	Projects that involve construction of stormwater treatment wetlands, other water features or underground utility vaults or propose increasing vegetation within existing water features
Impact:	Public health impacts associated with vectors
Timing:	During project design and project 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 operations and maintenance plans

Project plans and designs will be submitted to the applicable vector control agency (see Section 4.5.1.4 of the Final Program EIR) for review and comment with respect to control of mosquitoes and other vectors. Upon consultation with the vector control agency, appropriate vector management measures will 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.

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- 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 MP-H2

Applicable Project Type:	For projects located within 5 miles of El Monte Airport or Long Beach Airport
Impact:	Bird / wildlife air strike hazard associated with creation of habitat for waterfowl and other birds
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of documentation of consultation with applicable airport

For projects located within 5 miles of El Monte Airport or Long Beach Airport, the potential for the proposed facilities to attract waterfowl and other birds will be evaluated. If the evaluation indicates that the project would attract birds, the FAA Western Pacific Regional Office, Long Beach Airport, El Monte Airport and Los Alamitos Joint Forces Training Base will be notified of the proposed land use change to recognize potentially significant hazards early in the planning process and avoid or minimize the hazards.

2.6 HYDROLOGY AND WATER QUALITY

Mitigation Measure MP-W1

Applicable Project Type:	Projects that involve modifications to an existing flood control channel
Impact:	Impact on flood control capacities and downstream floodplain properties
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of detailed engineering studies Review of project plans and specifications Review of revised FEMA floodplain maps, as applicable

Future projects that propose modifications to an existing flood control channel will include detailed engineering studies, including hydrologic and hydraulic modeling as applicable, to assess potential impacts on the channel's flood control capacities and effects on upstream and downstream floodplain properties and recommendations to avoid or minimize these impacts. Recommendations of the engineering studies will be incorporated into project design. Modifications to Federal Emergency Management Agency (FEMA) floodplain maps will be made as needed.

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Mitigation Measure MP-W2

Applicable Project Type:	Projects involving constructing, clearing, grading or excavation on areas over 1 acre in size
Impact:	Discharge of polluted stormwater runoff during project construction
Timing:	During project design and during construction
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of SWPPP Construction inspection

For future projects involving constructing, clearing, grading or excavation on areas over 1 acre in size, develop and implement a Storm Water Pollution Prevention Plan (SWPPP) 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 as applicable. 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 MP-W3

Applicable Project Type:	Projects that involve channel modifications
Impact:	Discharge of sediment during construction of in-channel improvements
Timing:	During project design
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

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For future projects involving channel modifications, COE, Regional Board, U.S. Fish and Wildlife Service, and California Department of Fish and Game will 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) will 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) will 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.

Mitigation Measure MP-W4

Applicable Project Type:	Projects involving landscaping, habitat restoration, and/or removal of exotic plant species
Impact:	Discharge of chemical pesticide/herbicide
Timing:	During project design, 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 plans

For future 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 will be selected, and application will be conducted in accordance with manufacturers' recommendations and general standards of use, e.g., restricted application before and during rain storms.

Mitigation Measure MP-W5

Applicable Project Type:	Projects involving channel modifications
Impact:	Increase in erosion due to channel modifications
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of detailed engineering studies Review of project plans and specifications

For future projects involving channel modifications, detailed engineering studies (including sediment transport as applicable) will be conducted to assess the impact of the proposed changes on the channel's stability and erodability and will include recommendations to avoid or minimize the impact. Recommendations of the engineering studies will be incorporated into project design.

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to minimize impacts on surface water quality associated with potential increase in erosion of channel banks from proposed modifications.

Mitigation Measure MP-W6

Applicable Project Type:	Projects that involve stormwater infiltration
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 Method:	Review of project plans and specifications Review of stormwater and groundwater monitoring reports

For projects that involve stormwater infiltration, a comprehensive stormwater and groundwater quality monitoring program will be designed and implemented, or the results of existing monitoring programs will be considered. Monitoring results will be used to assess the ongoing effectiveness of the proposed stormwater treatment methods in protecting both surface and groundwater. If monitoring results indicate substantial water quality degradation associated with project infiltration, the following strategy will be followed:

- 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 MP-W7

Applicable Project Type:	Projects involving groundwater recharge
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
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Methods:	Review of site-specific groundwater information Review of project plans and specifications

For projects involving groundwater recharge, the project site's proximity to existing groundwater contamination plumes and landfills (or other known hazardous materials sites that could become a contamination source if inundated with groundwater) will be evaluated. If a project site is located within or adjacent to a plume or in the vicinity of a contamination source, the effect of the proposed recharge on groundwater hydrology (changes in flow direction and levels) will be evaluated. As applicable, groundwater modeling would be conducted to determine whether the rate and amount of recharge proposed by the project could result in substantial changes to the location or shape of existing contamination plumes, or in the inundation of landfills or other contamination sources. As part of the investigation, relevant agencies, including the Regional

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Board, Watermasters, and agencies involved in groundwater clean-up activities (e.g., EPA and WQA), will be consulted. As applicable, Mitigation Measure CD-W4 will be implemented to prevent interaction of infiltrated water with landfill materials or other contaminant sources.

Mitigation Measure MP-W8

Applicable Project Type:	Projects involving substantial ground disturbance
Impact:	Groundwater quality and hazardous materials impacts related to potential soil contamination or other constraints 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 where prior land use is unknown and the potential for soil contamination or other constraints (e.g., oil or gas wells) from previous land uses exists, a Phase I Environmental Site Assessment (ESA) will be conducted to determine the site-specific potential for soil contamination or other constraints. The Phase I ESA will 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 will 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, and include review of California Department of Conservation Division of Oil, Gas, & Geothermal Resources records of oil, gas, and geothermal wells. For project sites with infiltration, the boundary of the Phase I ESA will 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 or other constraints, 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) will 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. If the proposed project site includes or is in the immediate vicinity of oil or gas wells or if any unrecorded wells are damaged or uncovered during excavation or grading, the project proponent shall submit the information outlined in the “Construction Project Site Review and Well Abandonment Procedure” to the California Department of Conservation Division of Oil, Gas & Geothermal Resources. In order of preference, wells should be avoided, plugged or re-plugged to current Division specifications, or an adequate gas venting system should be installed if construction over an abandoned well is unavoidable.

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2.7 LAND USE

Mitigation Measure MP-L1

Applicable Project Type:	Projects that propose development of facilities that would result in restriction of future mineral extraction operations
Impact:	Impacts on availability of mineral resources
Timing:	During project design
Party Responsible for Implementation:	Project proponent
Agency Responsible for Monitoring:	CEQA lead agency for the project
Monitoring Method:	Review of documentation of consultation with SMARA lead agency

For future projects that propose development of facilities that would result in restriction of future mineral extraction operations (e.g., reclamation of an existing gravel mine before gravel extraction activities have been completed), site-specific evaluations described below will be conducted and the results will be disclosed in subsequent CEQA documentation:

1. Determine the site-specific availability of mineral resources by reviewing relevant publications from the California Geological Survey (e.g., SMARA Mineral Land Classification, available at: <http://www.consrv.ca.gov/cgs/minerals/mlc/index.htm>) and/or mine reclamation plans (if the proposed project site is an existing mine).
2. Contact the relevant SMARA lead agency (see Section 4.7.1.1 of the Final Program EIR) to determine whether the proposed land use change could restrict or preclude the extraction of mineral resources designated as regionally significant (MRZ-2) or locally important (as designated in a local land use plan).

2.8 NOISE

Mitigation Measure MP-N1

Applicable Project Type:	Projects involving use of use of heavy equipment and vehicles during construction
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

Evaluations of construction noise generation will be conducted as follows during site-specific environmental review of each future Master Plan project:

1. Identify noise-sensitive land uses located in the vicinity of the project site (e.g., residences, hospitals, schools, guest lodging, libraries, convalescent and retirement facilities, houses of

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worship, auditoriums and concert halls, outdoor theaters, nature and wildlife preserves, and parks).

2. Determine the existing noise environment of the project area (e.g., rural vs. high density urban). Identify nearby existing noise sources that affect the project site (e.g., heavy industrial operations or major highways).
3. Review the relevant jurisdiction’s noise regulations and policies (e.g., noise ordinances and general plan noise element) to identify construction noise standards and noise/land use compatibility guidelines.
4. Estimate the construction equipment needed and resultant noise generation (see Section 4.8.5.1 of the Final Program EIR). Compare the estimated construction noise levels that would be experienced by the nearest sensitive receptor to the relevant jurisdiction’s construction noise standards. The impact evaluation will also take into consideration construction duration, whether the noise generated would be intermittent or continuous, and the existing noise environment of the project area.
5. If the estimated noise levels exceed the standards, one or more of the following applicable site-specific measures will be implemented to reduce noise levels to meet the relevant jurisdiction’s noise standards:
 - Equip all mobile construction equipment with properly operating mufflers or other noise reduction devices
 - Install sound walls, sound curtains, or other temporary sound barriers
 - Select quieter construction procedures and/or equipment
6. For projects at school sites: schedule the noisier phases of construction on Saturdays, school vacation periods, and/or after regular class hours but before 9 p.m., as feasible; and maintain ongoing communications with the schools’ administrators to address any construction noise-related issues.

Mitigation Measure MP-N2

Applicable Project Type:	Projects involving new or expanded facilities for active recreation
Impact:	Operational noise impacts of new or expanded facilities for active recreation
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 operations and maintenance plans

Projects that involve new or expanded facilities for active recreation (e.g., athletic fields) will be designed to minimize impacts on nearby noise-sensitive land uses, if any, by siting facilities

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away from noise-sensitive land uses, limiting hours of operation, installation of sound barriers, and/or using other appropriate measures as necessary.

2.9 PUBLIC SERVICES AND UTILITIES

Mitigation Measure MP-P1

Applicable Project Type:	Projects with substantial construction periods
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

For future projects with substantial construction periods, the following measures will be implemented as applicable to minimize construction impacts on emergency response requirements of relevant police and fire departments. (See also Section 4.11.6 regarding mitigation measures related to construction impacts on traffic and roadways).

- 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.
- 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.
- 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

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Mitigation Measure MP-P2

Applicable Project Type:	Projects located adjacent to a school
Impact:	Construction impact on school access and student safety and 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 of project plans and specifications Review documentation of consultation with applicable school administrators Construction inspection

For future projects located adjacent to a school, evaluate the impact on school access (vehicles and pedestrians) and student safety from operation and/or parking of construction vehicles and equipment near the school property. The school district or the school administrator will be contacted to identify any policies that the school or the school district has established regarding construction on or near school properties (e.g., noise and traffic control standards) and to provide sufficient notice to forewarn school bus operators, children, and parents if existing pedestrian and vehicular routes to school would be affected. As necessary to protect the safety of children, parents and employees accessing the school, one or more of the following measures will 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.

Mitigation Measure MP-P3

Applicable Project Type:	Projects that include construction of pipelines or other underground structures
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 relevant utilities Review project plans and specifications Construction inspection

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For future projects that include construction of pipelines or other underground structures, identify the roadways or other rights-of-way that would be affected during construction. During facility design, contact the relevant utilities (e.g., water, sewage, electricity, natural gas, telephone, cable, and oil) to identify existing and proposed buried facilities in affected roadways. To the extent feasible, the alignment of new facilities will be designed to avoid the existing utilities. If avoidance is not feasible, one or more of the following measures will 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 MP-P4

Applicable Project Type:	Projects that include stormwater infiltration in the vicinity of power line towers
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

For future projects that include stormwater infiltration in the vicinity of power line towers, a geotechnical investigation will be conducted during facility design 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 will 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.)

Mitigation Measure MP-P5

Applicable Project Type:	Projects involving construction activities that would generate substantial amounts of construction waste (e.g., demolition of existing structures or modification of paved areas)
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 programs for minimizing solid waste generated during construction. These programs could include recycling of asphalt and concrete paving materials, reuse and composting of green waste materials on site where appropriate (e.g., where there is limited potential for inadvertent spreading of invasive plants), and balance of graded soil on site to the maximum extent feasible.

Mitigation Measure MP-P6

Applicable Project Type:	Projects involving lane or road closures during construction
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.

2.10 RECREATION

Mitigation Measure MP-R1

Applicable Project Type:	Projects that include modifications of existing recreational facilities
Impact:	Construction impact on existing recreational facilities
Timing:	During project design
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

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Future projects that include modifications of existing recreational facilities will require an evaluation of the impacts of proposed actions on other nearby recreational facilities as described in program Mitigation Measure MP-R1:

For projects that include modifications of existing recreational facilities, the timing, duration and areal extent of disturbance that would occur during construction of the proposed facilities will be identified during facility design. If temporary closures of existing recreational facilities would be necessary, the potential increase in use of other nearby recreational facilities will be evaluated. Factors to be considered in the evaluation include the duration of the closure, acreage and type of facility that would be unavailable due to the closure, and existing usage levels at the relevant recreational facilities.

If the impacts on nearby recreational facilities are determined to be potentially significant, one or more of the following measures will be implemented:

- Minimize construction period
- Modify construction phasing to limit disturbance of existing recreational facilities
- Avoid construction during peak use periods

2.11 TRANSPORTATION AND TRAFFIC

Mitigation Measure MP-T1

Applicable Project Type:	Projects that are projected to meet or exceed the site-generated traffic volume thresholds cited in the Los Angeles County Congestion Management Program
Impact:	Traffic impacts during project construction (including construction activities in the street rights-of-way) and operation; impact on traffic in the project area from construction activities in the street rights-of-way (e.g., storm drains)
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 of traffic study report Review of project plans and specifications Construction inspection

A traffic impact study will be prepared for any Master Plan project that is projected to meet or exceed the site-generated traffic volume thresholds cited in the Los Angeles County Congestion Management Program “Guidelines for CMP Transportation Impact Analysis.” The guidelines indicate that a study is required if a project would add 50 or more vehicle trips during either the a.m. or p.m. weekday peak hours to a CMP arterial monitoring intersection or freeway on- or off-ramp. An analysis will be conducted if the project would add 150 or more trips in either direction to a mainline freeway during either the a.m. or p.m. weekday peak hours. A traffic study will also be prepared if the project meets the criteria for the municipality in which the project site is located (i.e., an incorporated city, County of Los Angeles, or County of Orange).

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If the project would result in significant traffic impacts, one or more of the following measures will be implemented as applicable.

- A construction traffic management plan shall be developed for each project site that will 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.
- 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).
- 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.
- 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.
- 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).
- 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.
- 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.
- Other relevant traffic control measures.

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

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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)).

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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

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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

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- 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.

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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.

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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.

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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

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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)

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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.

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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.

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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:

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- 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.

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- 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

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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.

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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.

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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:

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- 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.

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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

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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

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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.

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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

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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.

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- 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.