

9.0 MITIGATION MONITORING AND REPORTING PROGRAM

The following Mitigation Monitoring and Reporting Program (MMRP) provides a summary of each Mitigation Measure (MM) for the proposed Los Angeles Zoo (Zoo) Vision Plan (Vision Plan; Project) and identifies the parties responsible for implementing that measure. The MMRP for the proposed Project would apply through all phases of the proposed Project, including design, construction, and operation.

9.1 PURPOSE

The purpose of the MMRP is to ensure that measures provided in the EIR to minimize or avoid significant adverse effects are implemented. The MMRP can also act as a working guide to facilitate not only the implementation of MMs by the project proponent, but also the monitoring, compliance, and reporting activities of the implementing agency and any monitors it may designate.

9.2 RESPONSIBILITIES

It is expected that the City of Los Angeles (City) Department of Public Works, Bureau of Engineering (BOE) would act as the design and construction manager for the implementation of the Vision Plan and would be responsible for the implementation of the MMRP. For each MMRP activity, the City BOE would either implement the activity or delegate it to other City departments (e.g., Zoo, Department of Recreation and Parks, Department of Buildings and Safety, etc.), to consultants, or to contractors. The BOE would also ensure that monitoring is documented as required and that deficiencies are promptly corrected. The party designated as environmental monitor (e.g., City building inspector, project contractor, certified professionals, etc.) would track and document compliance with mitigation measures, note any problems that may result, and take appropriate action to remedy problems. The City BOE or its designee(s) would ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

The Zoo would be responsible for funding the MMs identified in the MMRP, and would work with the BOE to assure that the MMRP requirements are met by all of its consultants and contractors. Standards for successful mitigation of impacts are implicit in many MMs that include such requirements as obtaining permits or avoiding a specific impact entirely. Other MMs specify detailed success criteria. Additional mitigation success thresholds would be established by applicable agencies with jurisdiction through the permit process and through the review and approval of project specific plans for the implementation of MMs.

9.3 MONITORING PROCEDURES

Many of the monitoring procedures would be conducted during the construction phase of the proposed Project. The City BOE or its designee(s) and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with the Zoo. To oversee the monitoring procedures and to ensure success, the environmental monitor assigned to a monitoring action must be on site during the applicable portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor would be responsible for ensuring that all procedures specified in the monitoring program are followed.

Site visits and specified monitoring procedures performed by other individuals would be reported to the environmental monitor assigned to the relevant construction phase. A monitoring record form would be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be documented and progress tracked by the environmental monitor. A checklist would be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure compliance with the timing specified for the procedures. The environmental monitor would note any problems that may occur and take appropriate action as directed by the City BOE to rectify the problem.

9.4 MITIGATION MONITORING TABLE

For each MM, Table 9-1 identifies 1) the full text of the MM; 2) the action(s) that needs to be performed, including the applicable timing; 3) the entity responsible for performing the action; and 4) the agency responsible for verifying compliance.

Table 9-1. Mitigation Monitoring and Reporting Program

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
Aesthetics and Visual Resources			
<p>MM VIS-1 Roadway and Parking Lot Improvement Design. Improvements to the intersection of Zoo Drive/North Zoo Drive/Western Heritage Way and the main Zoo entrance, Zoo parking lots, and the realignment of Crystal Springs Drive shall be designed to respect and enhance the visual quality and natural character of Griffith Park, especially designated gateways to Griffith Park as follows:</p> <ul style="list-style-type: none"> • A licensed landscape architect experienced with road and infrastructure design within highly scenic parks shall be part of any design team and charged with maintaining and enhancing visual quality and natural character the public spaces fronting the Zoo, including the parking, roadways, intersections and trails. • For improvements at the intersection of Zoo Drive/North Zoo Drive/Western Heritage Way and the main Zoo entrance, major structural changes, including but not limited to a new bridge, below-grade crossing, and slip ramps or a roundabout, a licensed architect experienced with road and infrastructure design within highly scenic parks shall be part of any design team and charged with creating a scenic and iconic gateway feature, including: <ul style="list-style-type: none"> • Use of stone or other natural materials consistent with surrounding structures and facilities in Griffith Park. • Minimize size, bulk, scale of structures to the extent feasible while also adhering to required engineering standards for safety and operations. • Installation of iconic design elements, signage, and art/decorations (e.g., emblematic animals or habitats, sculpture, topiary/vegetation, water feature) that reflect the gateway to both the Zoo and Griffith Park such that the bridge or roundabout become beneficial visual features. 	<p>Roadway and parking lot design improvements; preparation of a master landscape plan</p>	<p>Zoo; landscape architect; road/infrastructure architect</p>	<p>City BOE; City of Los Angeles Department of Recreation and Parks</p>

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<ul style="list-style-type: none"> • All improvements to access roads and intersections shall be designed to preserve existing vegetation, particularly healthy mature trees, and characteristic park features (e.g., split rail fences) and to protect views from these roads and adjacent trails. • As part of design of these road and intersection improvement projects, a master landscape plan shall be prepared to guide tree and landscape retention and protection along these road corridors along with tree replanting and replacement landscaping. • The Zoo shall coordinate with RAP on design of all road and intersection improvements, and parking lot perimeter plantings. 			
<p>MM VIS-2 Parking Structure Design and Screening. The proposed parking structure shall be designed in such a manner as to limit size, bulk, and scale and to reduce visibility of this new parking structure. The goal for redesign of the parking structure should be reduce the structure height as much as possible. Possible ways to reduce impacts of views of the structure from adjacent roadways and public areas may include:</p> <ul style="list-style-type: none"> • Siting the parking structure in the far western corner of the parking lot as far from Zoo Drive as possible; • Design of the structure to a height no greater than three stories above grade with development of additional subterranean construction levels as necessary to achieve the intended number of new parking spaces; • Screening of the structure through planting of dense stands of trees and landscaping around the exterior of the structure; • Installation of lattices or climbing vines along the exterior of the structure and; • Use of natural materials (e.g., stone facing) or earth-tone colors to reduce the urban character of the structure. <p>Proposed plans for the parking structure shall demonstrate screening and compatible design with Griffith Park and the intended goal of reducing structure height to the extent</p>	<p>Design of parking structure and associated screening</p>	<p>Zoo; City BOE</p>	<p>City BOE</p>

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feasible. If the design of the structure within the proposed footprint identified in the Vision Plan and with a reduced structure height is determined to be infeasible due to cost or other environmental factors (e.g., shallow groundwater), redesign of the structure to achieve a reduced structure height may include consideration of a design of a structure within a larger footprint and no subterranean levels. All plans for the proposed parking structure shall be subject to review and approval by the City Bureau of Engineering prior to approval of permits.			
MM VIS-3 Aerial Tram Glare Reduction. The proposed aerial tram support structures and gondolas shall have matte-finishing and painted with earth-tone colors to blend with the landscape. All glass features of the gondolas shall utilize non-reflective or low-reflectivity glass or film covers to avoid any potential for glare. Requirements for the use of no or low reflective materials shall be indicated on all plans for the aerial tram and be subject to review and approval by City Bureau of Engineering prior to approval of permits.	Use of matte-finishing, earth-tone paint, and non-reflective or low-reflectivity glass or film covers	Zoo; City BOE	City BOE
Air Quality			
MM AQ-1 Off-Road Construction Equipment Meeting Tier 4 Final Emissions Standards. All off-road diesel-powered construction equipment greater than 50 horsepower used for Project construction shall meet, at a minimum, Tier 4 Final off-road emissions standards. Construction contractors shall ensure that all off-road equipment meet the standards prior to deployment at the Project site and the Zoo shall demonstrate compliance with this measure to the City Bureau of Engineering prior to the start of construction. The City Bureau of Engineering shall monitor for continual compliance with these requirements throughout the course of construction.	Use of off-road diesel-powered construction equipment meeting Tier 4 Final off-road emissions standards	Zoo; City BOE	City BOE
Biological Resources			
MM BIO-1 Biological Resources Mitigation and Monitoring Program. The Zoo shall prepare and implement a Biological Resources Mitigation and Monitoring	Preparation and implementation of a Biological Resources	Zoo, City-approved biologist, City BOE, City of Los Angeles	City BOE

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<p>Plan (BRMMP) to mitigate loss of native vegetation communities, habitat, and special-status species from each Project phase. The BRMMP shall be prepared after completion of 30 percent design plans for each phase and shall specify timing and implementation of required biological resource restoration, enhancement, or creation measures. The BRMMP shall be prepared by a City-approved biologist as part of planning, engineering, and site design for each Project phase under the direction of and approval by the City Bureau of Engineering and Zoo planning staff. The BRMMP shall be prepared in consultation with appropriate City departments and resource agencies such as the Los Angeles Fire Department, Recreation and Parks Department, and the CDFW. The BRMMP shall be updated prior to final designs and development plans for each phase. The Zoo shall be responsible for ensuring all BRMMP requirements are reflected in Project design/architectural, engineering, and grading plans. All plans for each Project phase shall be reviewed by the City to ensure compliance with the BRMMP. The BRMMP shall require measures to avoid and mitigate impacts to biological resources onsite, including, but not limited to, the following:</p> <ol style="list-style-type: none"> 1. At the 30 percent design plan stage for each Project phase, biological resource surveys shall be completed for areas of potential effect in that phase by a City-approved biologist, subject to the following requirements: <ol style="list-style-type: none"> a) The surveys shall refine the disturbance footprint of impacted habitats plus a buffer if recommended by the City-approved biologist. b) The survey shall delineate native vegetation communities such as coast live oak woodland, laurel sumac shrubland, and coastal sage scrub, including maps of the extent and type. c) The survey shall identify all special-status plant and animal species present or potentially present within the subject phase of Project development. d) A summary of the results of the pre-construction survey shall be submitted to the City immediately 	<p>Mitigation and Monitoring Plan (BRMMP)</p>	<p>Department of Recreation and Parks; Los Angeles Fire Department; California Department of Fish and Wildlife</p>	

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<p>upon completion of the survey. A survey report describing and delineating the extent and quality of native vegetation communities and the presence or potential presence of special-status plant or animal species shall be submitted to the City for review and approval prior to completion of 60 percent design plans for the subject Project phase; if no native vegetation communities or special-status species are present or potentially present, the survey report shall describe such findings based on evidence from the surveys.</p> <p>e) The survey report shall map and describe the location and extent of native vegetation communities and observed special-status plant or animal species that would be impacted within the areas of potential effect for each Project phase, and require the following avoidance, minimization, and mitigation measures:</p> <p>i) To the maximum extent feasible, onsite native vegetation communities and special-status plant species shall be protected and preserved in place, and design plans shall be amended to avoid disturbance or loss of these biological resources. The City-approved biologist shall work with Project designers during design for each phase, as required, to incorporate existing native vegetation and special-status plant species, such as Nevin’s barberry, and mature native trees, such as coast live oaks, into the Zoo landscaping and facilities (e.g., exhibits, visitor-serving spaces, service areas) in a manner that would ensure the livelihood and biological value of the natural community and/or individual plant. Construction techniques for Project development to avoid and protect special-status species shall be identified as part of a required construction mitigation plan (see MM BIO-2).</p> <p>ii) If avoidance or preservation in place cannot be achieved while meeting Project Objectives, the</p>			

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<p>area of disturbed native vegetation communities and the total lost special-status plant species shall be mitigated onsite at a ratio of 2:1, as feasible given space limitation within the Zoo. To the extent feasible, native vegetation communities and special-status plant species shall be relocated or reestablished within disturbed, altered, and/or lost areas of coast live oak woodland, laurel sumac shrubland, and coastal sage scrub within the Project site. The BRMMP shall provide a description of the location and boundaries of the mitigation site and description of existing site conditions. The mitigation area shall be incorporated into the final development plans for each phase of Project development.</p> <p>iii) If native vegetation communities and/or special-status plant species cannot be protected and/or restored onsite, the Zoo and City shall work with RAP to identify an appropriate site(s) for restoration within Griffith Park to serve as a mitigation site. Offsite restoration of affected native vegetation communities and special-status plant species shall occur at a minimum ratio of 3:1. Ratios for the restoration of native vegetation communities and/or special-status species shall be based upon the vegetation composition, plant rarity, local demographics, and location of the mitigation site. The BRMMP shall provide a description of the location and boundaries of the offsite mitigation site. The City and City-approved biologist shall consult with CDFW to determine City-approved biologist shall consult with CDFW to determine additional measures for protection and restoration of habitats occupied by special-status species, including nesting birds.</p> <p>iv) If onsite or offsite restoration is required, the BRMMP shall specify restoration plans and</p>			

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<p>techniques, as recommended by a City-approved biologist, including, but not limited to:</p> <ul style="list-style-type: none"> (1) Identification of a suitable habitat compensation area of comparable size to be preserved and managed for lost habitat or species (2) Site preparation (3) Seed collection and/or plant salvage, designation, or establishment of offsite plant nursery facilities. (4) Planting, hydroseeding, replanting or seeding activities. (5) Success criteria (6) Maintenance and monitoring program, for the short-term plant establishment period (i.e., 1-3 years), and over the long term (i.e., 5 years) (7) Reporting Requirements <p>v) If onsite or offsite restoration is required, a binding long-term agreement with the Zoo to implement and maintain protected and restored habitats/communities shall be implemented with the City. The BRMMP shall identify typical performance and success criteria deemed acceptable by the City based on measurable goals and objectives. Minimum criteria for restored habitats shall be at least 70 percent survival of container plants and 70 percent relative vegetative cover by vegetation type. BRMMP mitigation elements that do not meet performance or final success criteria within 5 years shall be completed through an extension of the BRMMP for an additional 2 years or at the discretion of the City with the goal of completing all mitigation requirements. Monitoring of the mitigation and maintenance areas shall occur for the period established in the BRMMP, or until success criteria are met. If success criteria cannot</p>			

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<p>be met through the BRMMP, the City shall specify appropriate commensurate measures (e.g., additional onsite or offsite restoration).</p> <p>vi) If special-status animal species are present or potentially present based on the survey, including bat, woodrats, Crotch’s bumble bee, or legless lizard species, and migratory or nesting birds, the BRMMP shall include avoidance and minimization measures to avoid or relocate as part of a construction mitigation plan (see MM BIO-2) and management plans for migratory and nesting birds (see MM BIO-4) and bat colonies (MM BIO-5).</p>			
<p>MM BIO-2 Construction Mitigation Plan for Biological Resources. The Zoo shall prepare and implement a Construction Mitigation Plan (CMP) that identifies avoidance, reduction, and mitigation measures for construction-related impacts to biological resources, including special-status species. The CMP shall be prepared by a City-approved and qualified biologist prior to initiation of construction activities for Phase 1 of the Project and updated prior to construction activities for each subsequent phase. The CMP shall be approved by the City Bureau of Engineering and Zoo planning staff. The Zoo shall be responsible for ensuring all CMP requirements are included in construction plans and implemented as part of construction. All construction activities shall be monitored by a City-approved biologist to ensure compliance with the CMP. The Zoo would coordinate with CDFW Region 5 prior to the start of any construction activities.</p> <p>The CMP shall require:</p> <ol style="list-style-type: none"> 1. Per MM BIO-1, the CMP shall incorporate and address data from biological resource surveys for each Project phase to avoid and protect special-status plant and animal species to the maximum extent feasible, as follows: <ol style="list-style-type: none"> a) Within six months prior to the start of construction of each Project phase, biological resource surveys 	<p>Preparation and implementation of Construction Mitigation Plan (CMP)</p>	<p>Zoo, City-approved biologist, City BOE, California Department of Fish and Wildlife</p>	<p>City BOE</p>

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<p>shall be completed for areas affected in that phase by City-approved biologist, consistent with MM BIO-1.</p> <p>b) If the phase-specific survey identifies presence or potential presence of special-status species, within 14 days of the start of construction (including mobilization and staging), pre-construction clearance surveys shall be completed by a City-approved biologist to either confirm or update the BRMMP related to the location and extent of special-status species. A report of the pre-construction survey shall be submitted to the City Bureau of Engineering for review and approval prior to the start of construction.</p> <p>2. Based on the BRMMP and the results of the pre-construction surveys, the CMP shall require measures to avoid or mitigate impacts to special-status species present or potentially present within the Project phase; if no sensitive species are present or potentially present, the CMP shall identify findings from the surveys. If determined appropriate based on the results of the BRMMP, a species-specific list (or plan) of proper handling and relocation protocols and a map of suitable and safe relocation areas shall be prepared by the City-approved biologist. The list or plan shall be submitted to the City for review and approval prior to implementing any Project-related ground-disturbing activities and vegetation removal. CMP avoidance and minimization measures shall be subject to review and approval by a City-approved biologist, including, but not limited to, the following:</p> <p>a) If present, special-status animal species, such as woodrat, legless lizard, and bat species (see also MM BIO-5), shall be relocated from the Project site either through direct capture or through passive exclusion prior to construction activities. Pursuant to the California Code of Regulations, Title 14, Section 650, the City-approved biologist must obtain appropriate handling permits to capture, temporarily process, and relocate wildlife to avoid harm or mortality in</p>			

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<p>connection with Project construction and activities. With cooperation and authorization from CDFW, trapping may be employed to identify woodrat species that are inhabiting the site. If determined appropriate, woodrat middens should also be relocated by qualified biologists outside of construction areas.</p> <p>b) If present, special-status plant species, such as Nevin’s barberry, shall be avoided to the extent feasible through use of high visibility exclusion fencing and signage to protect vegetation and root systems from disturbance or compaction, consistent with the BRMMP. Lost special-status plant species shall be replaced consistent with the BRMMP.</p> <p>c) If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area shall stop immediately. The City-approved biologist shall be notified, and dead or injured wildlife documented. A formal report shall be sent to the City and CDFW within three (3) calendar days of the incident or finding. Work in the immediate area may only resume once the proper notifications have been made and additional mitigation measures have been identified to prevent injury or death.</p> <p>3. The CMP shall include BMPs to avoid or minimize impacts to biological resources during construction, including, but not limited to, the following:</p> <p>a) Construction equipment and vehicles shall be stored within existing disturbed or developed areas within the Zoo to the maximum extent feasible to avoid impacts to natural areas. All construction vehicle maintenance shall be performed in a designated offsite vehicle storage and maintenance area approved by the City. All construction access roads and staging areas shall be located to avoid known/mapped native vegetation and special-status species.</p>			

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<p>b) All construction materials (e.g., fuels, chemicals, building materials) shall be stored at designated construction staging areas, which shall be located outside of designated sensitive areas in the BRMMP and CMP. Should spills occur, materials and/or contaminants shall be cleaned immediately and recycled or disposed of to the satisfaction of the RWQCB.</p> <p>c) All trash and construction debris shall be properly disposed at the end of each day. Dumpsters shall be covered either with locking lids or with plastic sheeting at the end of each workday and during storm events. All sheeting shall be carefully secured to withstand weather conditions.</p> <p>d) Construction-related erosion shall be minimized to retain sediment within the area of potential effect, including installation of silt fencing, straw wattles, or other acceptable construction erosion control devices. Such measures shall be installed along the perimeter of disturbed areas.</p> <p>e) Concrete truck and tool washout shall occur in a designated construction staging areas or other offsite location such that no runoff would flow to natural areas within the Zoo or to the Zoo's stormwater collection system.</p> <p>f) All open trenches shall be constructed with appropriate exit ramps to allow species that incidentally fall into a trench to escape. All open trenches shall be inspected at the beginning of each workday to ensure that no wildlife species are present. Any wildlife species found during inspections shall be gently encouraged to leave the Project site by a qualified biologist or otherwise trained and City-approved personnel. Trenches shall remain open for the shortest period necessary to complete required work.</p> <p>g) Construction shall be limited to daylight hours (7:00 AM to 7:00 PM or sunset, whichever is sooner).</p>			

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<p>MM BIO-3 Worker Environmental Awareness Program. The Zoo shall retain a qualified, City-approved biologist to prepare a Worker Environmental Awareness Program (WEAP) that shall be implemented during all phases of construction. WEAP training shall be provided to all personnel working on the site by a qualified, City-approved biologist. The training should review the construction-related requirements of the BRMMP and the CMP, including all special-status species that occur or have potential to occur. Training should explain all mitigation and protection measures, responsibilities of each worker, and a reporting framework. The City-approved biologist shall communicate to all workers that upon encounter with an SCC (e.g., during construction or equipment inspections), work must stop, a qualified biologist must be notified, and work may only resume once a qualified biologist has determined that it is safe to do so. The WEAP shall be prepared and approved by the City Bureau of Engineering and Zoo planning staff prior to construction activities of Phase 1.</p>	<p>Preparation and implementation of a Worker Environmental Awareness Program (WEAP)</p>	<p>Zoo; City BOE and City-approved biologist</p>	<p>City BOE</p>
<p>MM BIO-4 Migratory and Nesting Bird Management. Removal of trees and other vegetation shall be conducted outside of the breeding season (generally January 15 to August 31 for raptors, March 1 to August 31 for other bird species) to the extent feasible. If Project construction activities must be conducted during these period, pre-construction nesting bird surveys by a City-approved biologist shall take place within one week prior to ground disturbance and tree removal or trimming associated with each Project phase. If no active nests or nesting activity is found within or immediately adjacent to the phase work area, construction activities may proceed. If active nests are located during these surveys, the following measures shall be implemented:</p> <ol style="list-style-type: none"> 1. A summary of the results of the pre-construction survey shall be submitted to the City immediately upon completion of the survey. Consistent with MM BIO-1 and MM BIO-2, the qualified biologist shall prepare a 	<p>Migratory and nesting bird management; Pre-construction nesting bird survey</p>	<p>Zoo; City BOE; City-approved biologist</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>final report of the pre-construction survey to be submitted to the City Bureau of Engineering for review and approval prior to the start of construction. The report shall detail appropriate fencing or flagging of the buffer zone and make recommendations on additional monitoring requirements. A map of the area of potential effect and nest and roost locations shall be included with the report. If any special-status species are observed during pre-construction surveys, the Project biologist shall report the findings and coordinate with appropriate regulatory agencies to determine appropriate procedures for handling or avoidance of the specimen.</p> <p>2. If the pre-construction surveys indicate presence of nesting or roosting birds, the construction activity shall be evaluated, and avoidance methods implemented as necessary at the discretion of the qualified biologist. Methods would vary based on bird species, site conditions, and type of work to be conducted, but could consist of limited or reduced construction access; reduced vehicle speeds; and/or noise attenuation.</p> <p>3. At the discretion of the qualified biologist, construction activities within 300 feet of an active nest of passerine birds shall be restricted until chicks have fledged, unless the nest belongs to a raptor, in which case a 500-foot activity restriction buffer shall be observed to avoid noise, light, and direct disturbance (see Section 3.12, <i>Noise and Vibration</i>). The Project biologist conducting the survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions and the species involved. If during Project construction and ground disturbance activities an active nest is discovered, the City-approved biologist shall halt work immediately within the work area, activity restriction buffers shall be established, and avoidance methods shall be employed as necessary.</p> <p>4. A report of findings and recommendations for bird protection shall be submitted to the City prior to vegetation removal.</p>			

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<p>MM BIO-5 Bat Colony Management. Removal of trees and older structures should be conducted outside of the maternity roost season (typically March 1 to August 31). Prior to removal of any trees over 20 inches diameter-at-breast-height (DBH) or demolition/relocation of existing onsite structures, a pre-construction acoustic and day/night roost survey shall be conducted by a qualified biologist to determine if any tree or structure proposed for removal, trimming, demolition, or relocation harbors sensitive bat species or maternal bat colonies. If present, maternal bat colonies shall not be disturbed and grading and construction activities shall avoid the bat breeding season to the extent feasible. If disturbance of structures must occur during the bat breeding season, buildings and trees must be inspected and deemed clear of bat colonies/roosts within 7 days of demolition and an appropriately trained and approved biologist must conduct a daily site-clearance during demolition. If bats are roosting in a structure or tree in the Project site during the daytime but are not part of an active maternity colony, then exclusion measures shall be utilized and must include one-way valves that allow bats to leave but are designed so that the bats may not re-enter the structure. For each occupied roost removed, one bat box shall be installed in similar habitat as determined by the Project biologist and shall have similar cavities or crevices to those which are removed, including access, ventilation, dimensions, height above ground, and thermal conditions. If a bat colony would be eliminated from the Project site, appropriate alternate bat habitat shall be installed within the Project site. To the extent practicable, alternate bat house installation shall occur near onsite drainages.</p>	<p>Bat colony management; Pre-construction acoustic and day/night roost survey</p>	<p>Zoo; City-approved biologist</p>	<p>City BOE</p>
<p>Cultural and Tribal Cultural Resources</p>			
<p>MM CUL-1 Pre-Construction Workshop. Prior to any ground disturbance activities during construction of each Project phase, a City-qualified archaeologist and shall conduct a cultural resources workshop for all construction personnel. The City-qualified archaeologist must meet the</p>	<p>Cultural resources workshop conducted by a City-qualified archaeologist for all construction personnel</p>	<p>Zoo and construction contractor; City-qualified archaeologist</p>	<p>City BOE</p>

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<p>Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a Principal Investigator working with Native American archaeological sites in southern California. The qualified archaeologist will ensure that all other personnel are appropriately trained and qualified. The workshop will inform all construction personnel of the types of cultural material that may be encountered, and of the proper procedures to be followed in the event of an unexpected discovery of cultural material or human remains. Appropriate documentation will be completed to demonstrate attendance.</p>			
<p>MM CUL-2 Unexpected Discovery of Cultural Material. In the event unexpected cultural resource material - such as flaked or ground stone, historic debris, building foundations, or non-human bone - is discovered during Project-related ground disturbances, construction personnel will stop all work within 50 feet of the discovery until a City-qualified archaeologist can evaluate the discovery for significance. Construction personnel will contact the City and Zoo staff immediately. Activities that may adversely impact the discovery will not resume without written authorization from the City that construction may proceed. The nature, extent, and significance of the discovery will be evaluated by a City-qualified archaeologist, and a Native American representative if the discovered resource is prehistoric. If the discovery is determined to be a significant cultural resource under CEQA, avoidance is the primary method of mitigation. If avoidance is not feasible, the City-qualified archaeologist will prepare a treatment plan consistent with CEQA Guidelines Section 15064.5(f) that addresses implementation of data recovery mitigation excavations. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation and public interpretation. A report of findings shall be prepared, and recovered materials curated, if needed, in an approved facility.</p>	<p>Evaluation of cultural resource material by a City-qualified archaeologist if uncovered during construction; Treatment Plan; Final Report</p>	<p>City-qualified archaeologist; Native American representative</p>	<p>City BOE</p>

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<p>MM CUL-3 Unexpected Discovery of Human Remains. In the event human remains are encountered during Project-related ground disturbances, construction personnel will stop all work in the vicinity of the discovery and immediately contact the Los Angeles County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. The City and Zoo staff will also be contacted. If the County Coroner determines the remains are prehistoric, the Coroner will contact the Native American Heritage Commission and the Native American Heritage Commission shall designate a Most Likely Descendant.</p>	<p>Cease work; evaluation by the County Coroner and contacting of Native American Heritage Commission if findings are prehistoric</p>	<p>Zoo and construction contractor; County Coroner; Native American Representative</p>	<p>City BOE</p>
<p>MM CUL-4 Native American Monitoring. A Native American representative approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and the NAHC will monitor ground disturbing construction activities. Ground disturbing construction activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that include, but are not limited to, pavement removal, pot-holing or augering, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. The Native American representative will complete daily monitoring logs that will provide the location of construction activities, and a description of the soil and any cultural materials identified. Native American monitoring will be terminated when all ground disturbing construction activities are complete or when the Native American representative determines that the proposed Project site has a low potential for impacting Tribal Cultural Resources during each phase of Project implementation. Native American monitoring during ground disturbing construction activities will be conducted consistent with current professional standards.</p>	<p>Native American representative monitoring during ground-breaking construction activities</p>	<p>Zoo and construction contractor; Native American representative</p>	<p>City BOE</p>
<p>MM CUL-5 Unanticipated Discovery of Tribal Cultural and Archaeological Resources. Pursuant to MM CUL-2, upon discovery of any archaeological resources, construction activities will cease in the immediate vicinity of the discovery until the discovery can be assessed. All</p>	<p>Cease work; evaluation of archaeological resource by a Native American representative; Treatment Plan and curation</p>	<p>Zoo and construction contractor; Native American representative</p>	<p>City BOE</p>

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<p>archaeological resources identified during Project construction activities will be evaluated by the Native American representative approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation will coordinate with the City and the Zoo regarding treatment and curation of the resources including reburial or preservation for educational purposes. Per AR-2, if the discovery is a significant resource, avoidance measures or appropriate mitigation will be implemented.</p>			
<p>MM CUL-6 Preservation of Unique Archeological Resources. If unique archaeological resources are discovered, preservation in place (i.e., avoidance) will be the preferred manner of treatment consistent with Public Resources Code Section 21083.2(b). If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resources and subsequent laboratory processing and analysis. Historic archaeological material that is not Native American in origin will be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it will be offered to a local school or historical society for educational purposes.</p>	<p>Preservation in place; archaeological data recovery excavations; curation</p>	<p>Zoo and construction contractor; City-approved archaeologist</p>	<p>City BOE</p>
<p>MM CUL-7 Unanticipated Discovery of Human Remains and Associated Funerary Objects. PRC Section 5097.98(d)(1) defines Native American human remains as an inhumation or cremation in any state of decomposition or skeletal completeness. Consistent with MM CUL-3, in the event human skeletal material is discovered, excavation will be stopped, and the discovery will be immediately reported to the Los Angeles County Coroner consistent with Health and Safety Code 7050.5. If the County Coroner recognizes the human remains to be Native American or has reason to believe the remains are Native</p>	<p>Cease excavation; evaluation by County Coroner; contact NAHC; Native American representative construction monitoring; Treatment Plan</p>	<p>Zoo and construction contractor; County Coroner; Native American representative</p>	<p>City BOE</p>

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<p>American, the County Coroner will contact the NAHC within 24 hours. Public Resources Code 5097.98 will be followed. In the event human skeletal material is discovered, the following will occur:</p> <ul style="list-style-type: none"> • The Native American representative monitor will immediately redirect construction activity a minimum of 150 feet from the discovery and place an exclusion zone around the discovery. The Native American representative will contact the construction manager who will then contact the Los Angeles County Coroner. The Native American representative will also contact the Gabrieleño Band of Mission Indians-Kizh Nation, a City-qualified archaeologist, the City, and the Zoo. Construction activity will continue to be redirected while the County Coroner determines whether the human skeletal material is Native American. The discovery will be kept confidential and secure to prevent further disturbance. If the human skeletal material is determined to be Native American, the County Coroner will notify the NAHC. The NAHC will then appoint a Most Likely Descendant. • Funerary objects/associated grave goods will be treated in the same manner as bone fragments. • If discovered human remains cannot be fully documented and recorded on the same day, the remains will be covered with muslin cloth. A steel plate will be placed over the discovery to protect the remains. If a steel plate is not available, a 24-hour guard will be present onsite outside of regular construction hours. • Redirecting construction activities to protect the human remains in place will be recommended if feasible. If construction activities cannot be redirected, the burials may be removed. Cremations will be removed in bulk or by any means necessary to ensure complete recovery of all material. The Gabrieleño Band of Mission Indians-Kizh Nation will work closely with the City-qualified archaeologist to ensure that any excavation to remove 			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>human remains is conducted carefully, ethically, and respectfully.</p> <ul style="list-style-type: none"> • If the discovery of human remains includes four or more burials, the location will be considered a cemetery and a separate treatment plan will be prepared. • If data recovery excavations are approved by the Gabrieleño Band of Mission Indians-Kizh Nation, documentation will include detailed descriptive notes and sketches at a minimum. Additional documentation will be approved by the Gabrieleño Band of Mission Indians-Kizh Nation • All feasible care will be taken to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects. • Scientific study of the human remains, including the use of invasive diagnostic procedures/techniques, will not be conducted. • Each discovery of human remains or associated funerary objects will be stored in opaque cloth bags. All human remains, funerary objects, sacred objects, and objects of cultural patrimony will be removed to a secure container on-site if possible. These items will be retained and reburied within six months of discovery. • Prior to the resumption of ground disturbing construction activities, the Zoo will designate a location within the proposed Project site for the respectful reburial of the human remains and/or funerary objects. The reburial/repatriation site will be a location agreed upon between the Gabrieleño Band of Mission Indians-Kizh Nation and the Zoo to be protected in perpetuity. • There will be no publicity regarding a discovery of human remains. • A final report will be submitted to the Gabrieleño Band of Mission Indians-Kizh Nation and the NAHC. 			
Energy			
No avoidance and minimization measures for this impact area.	N/A	N/A	N/A

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Urban Forestry Resources			
<p>MM UF-1 Protected Tree Plan. To offset impacts to protected and important trees and shrubs resulting from Vision Plan implementation, the Zoo shall prepare and implement a Protected Tree Plan. The Protected Tree Plan shall identify measures for the protection, relocation, and/or replacement of protected and important significant trees and shrubs. The Protected Tree Plan shall outline and require that Project activities affecting protected trees and shrubs proceed as follows:</p> <ol style="list-style-type: none"> 1. <u>Preservation of Trees and Shrubs:</u> Protected and important trees and shrubs shall be preserved in place to the maximum extent feasible. To ensure protection of native protected trees and shrubs, as part of design of the California and Africa area exhibits, all protected trees and shrubs shall be mapped and incorporated into the exhibit to the maximum extent feasible. The Zoo shall hire a City-approved Tree Expert meeting the requirements of the City’s Protected Tree Ordinance to evaluate the health and structure of protected and important trees and shrubs and make recommendations for avoidance of healthy specimens to the maximum extent feasible. The tree expert shall work with project designers during the final design of each phase to incorporate such trees into the exhibits in a manner that would ensure protection of the tree or shrub from damage by exhibit animals or exhibit maintenance activities. Each protected or important tree and shrub to be retained shall have a designated Protection Zone identifying the area sufficiently large enough to protect it and its roots from significant damage during construction. The designated Protection Zone of each specimen shall be protected with 5- to 6-foot-high chain link fences. Fences shall be mounted on 2-inch galvanized iron posts, driven into the ground to a depth of at least two feet and at no more than 10-foot centers, or similarly durable material. Tree and shrub fences shall be erected before demolition, grading, 	<p>Preparation and implementation of a Protected Tree Plan</p>	<p>Zoo and Construction contractor; City-approved Tree Expert; City Forester; City BOE and Los Angeles Department of Recreation and Parks</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>or construction begins and remain until final inspection of the project. Construction and demolition activities around protected trees shall follow all industry standards. Erosion control measures, tree pruning, soil compaction preventive measures, and a tree maintenance schedule shall be implemented and verified by the Bureau of Engineering and a City-authorized tree expert. Following construction, each tree or shrub preserved shall be monitored for a minimum of 5 years to ensure their long-term survivability.</p> <p>2. <u>Relocation of Trees and Shrubs</u>: Where protected and important trees cannot be avoided and preserved in place, individuals shall be transplanted elsewhere onsite to the extent feasible. If relocation onsite is not feasible, individuals shall be transplanted to an appropriate offsite location elsewhere within Griffith Park, pursuant to the approval of the City Bureau of Engineering and RAP. The City-approved Tree Expert shall identify the necessary measure to be taken to ensure the maximum survivability of the relocated specimens, including relocation method, placement, irrigation method, and maintenance. Relocated individuals shall be monitored for their success for a period of 5 years. The Tree Protection Plan shall identify performance standards for determining whether relocated specimens are healthy and growing normally and shall outline procedures for periodic monitoring and implementation of corrective measures in the event the health of relocated trees declines.</p> <p>3. <u>Replacement of Trees and Shrubs</u>: Where the preservation or relocation of protected and important trees and shrubs is not feasible, or where the health of preserved or relocated specimens becomes compromised, as part of the final design of each exhibit or feature, the Zoo shall prepare and implement a replacement planting program. Replacement of protected and important trees and shrubs should follow guidelines described in the City's Protected Tree Ordinance adopted at the time, including requirements for relocated or removed trees or</p>			

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Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>shrubs to be replaced by other species protected by the ordinance at a 4:1 ratio (number of individuals restored to number of individuals impacted). Replacement of oak trees shall be subject to replacement as follows: oak trees less than 12 inches diameter at breast height (DBH) be replaced at 4:1; oak trees between 12 and 24 inches DBH be replaced at 5:1; and oak trees greater than 24 inches DBH be replaced at 10:1. The replacement planting program shall be prepared by a City-approved Tree Expert meeting the requirements of the City's Protected Tree Ordinance. The replacement planting program shall specify the location for replacement, tree or shrub size, planting specifications, and shall include a monitoring program to ensure that the replacement planting program is successful. To the extent feasible, protected and important trees or shrubs removed within the California or Africa exhibits shall be replaced within each exhibit. Where this is not feasible, the Tree Protection Plan shall outline provisions and standards for replacement in areas outside of each exhibit. At a minimum, the monitoring program shall require monitoring of replacement individuals for a period of 5 years and shall include performance standards for determining whether replacement specimens are healthy and growing normally and procedures for periodic monitoring and implementation of corrective measures in the event that the health of replacement trees declines.</p> <p>Replacement of removed trees and shrubs should occur within the Zoo to the extent feasible. If replacement within the Zoo is not feasible, the Zoo should coordinate with RAP and the City Forester for replacement trees and shrubs to be planted on adjacent areas of Griffith Park, provided such locations can support the tree's or shrub's survival. Each replacement tree shall be at least 15-gallon, or larger, measuring one inch or more in diameter one foot above the base, and be not less than seven feet in height measured from the base. If use of similar sized replacement trees and shrubs is not possible, smaller sized replacements may be planted. In</p>			

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that event, a greater number of replacement trees or shrubs may be required.			
<p>MM UF-2 Restoration Plan. To offset impacts to urban forestry resources and ensure landscaping under the Vision Plan is planned to provide urban forest value, the Zoo shall retain a qualified landscape architect to prepare a landscaping plan. The Zoo landscape plan shall be subject to review and approval by City Bureau of Engineering and shall include the following:</p> <ol style="list-style-type: none"> 1. Maximize protection of existing protected and important trees and shrubs consistent with the Zoo’s Tree Protection Plan identified in MM UF-1. 2. Specify a plant palette and landscape plan that ensures establishment of tree canopy that is cohesive with and supports continuity with the surrounding canopy. The plant palette shall emphasize tree species which are considered to provide a healthy mix of visual and biological value and which offer greater shade cover and carbon sequestration. 3. Plantings shall include tree specimens and shrubs capable of reaching or exceeding the heights of the adjacent proposed structures and plantings. 4. Landscaping shall occur immediately following completion of construction of a proposed area of improvement. Planting would use a combination of small containers and larger containers with more mature specimens to ensure plant health while also expediting recovery of the urban forest and minimizing duration of heat island effects following construction. 	Preparation of a landscaping plan	Zoo; qualified landscape architect	City BOE
Geology and Soils			
<p>MM GEO-1 Site-Specific Geotechnical Evaluation. Prior to the design and construction of proposed improvements at in each phase of the Project, a detailed geotechnical evaluation, including subsurface exploration and laboratory testing, shall be performed, consistent with LADBS standards and approvals. The geotechnical evaluation shall 1) further evaluate the specific subsurface conditions,</p>	Preparation of a geotechnical evaluation; incorporation of the study recommendations into the final design and construction of the Project.	Zoo; Los Angeles Department of Building and Safety; City BOE	City BOE

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<p>including liquefaction and landslide potential, at each development site, 2) provide site-specific data regarding potential geologic and geotechnical constraints, and 3) provide information pertaining to the engineering characteristics of earth materials with regard to the proposed Project. Recommendations for earthwork, excavations, foundations, shoring, pavements, and other pertinent geotechnical design considerations shall be formulated from the detailed geotechnical evaluation. In the California planning area, the proposed hillside cut, excavation, and reinforcement required for Condor Canyon and its potential bridges shall be evaluated and designed with appropriate shoring mechanisms to avoid landslide and soil instability during construction and operation. The recommendations of the geotechnical report shall be incorporated into the final design and construction of the Project components. The geotechnical reports shall analyze for the following hazards:</p> <ul style="list-style-type: none"> • If the site-specific geotechnical evaluation finds that slope instability is an issue in certain phases of development such as California and Africa planning area improvements, engineering techniques and technologies as retaining walls or graded soil buttresses, shall be employed during construction and/or operation. • If the site-specific geotechnical evaluation finds that liquefaction is an issue in certain phases of development such as development of Zoo Entry, Nature Play Park, or Asia planning area improvements or the proposed parking structure, engineering techniques and technologies such as removal and recompaction, densification of existing soils, or deepened foundations shall be employed during construction and operation. • If the site-specific geotechnical evaluation finds that expansive soils are an issue in certain phases of development such as development of Zoo Entry, Nature Play Park, or Asia planning area improvements, engineering techniques and technologies such as removal and replacement with low expansive materials or special 			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>reinforced design of foundations and slabs shall be employed during construction and operation.</p> <ul style="list-style-type: none"> If the site-specific geotechnical evaluation finds that dynamic compaction of dry soils is an issue in certain phases of development, engineering techniques and technologies such as removal and recompaction, densification of existing soils, or deepened foundations may be employed during construction and operation. <p>The Zoo shall prepare each geotechnical evaluation for each improvement in Phases 1 – 7 to inform final design and engineering of improvements. Each geotechnical investigation shall be reviewed and approved by LADBS and the City Bureau of Engineering prior to groundbreaking of each phase. LADBS and the City of Bureau of Engineering shall review and approve all geotechnical investigations and review final Zoo development and engineering plans to ensure geotechnical recommendations are accurately incorporated prior to Project-related construction.</p>			
<p>MM GEO-2 Site-specific Paleontological Mitigation Plan. A qualified paleontologist approved by the City of Los Angeles and the Los Angeles County Natural History Museum Vertebrate Paleontology Department shall be retained prior to earth-moving activities associated with construction of any individual Project phase. Prior to these earth-moving activities, the paleontologist shall determine if a site-specific mitigation plan is required for each phase based on the underlying geology and the proposed depths of excavation proposed by development and engineering plans for each phase. If a site-specific mitigation plan is required, the plan shall specify the level and types of mitigation efforts as set forth below, based on the types and depths of any ground disturbing activities and associated, impacted geological unit.</p> <p>Where a site-specific mitigation plan is required, earth-moving activities shall be monitored by the paleontologist or a monitor. Monitoring is only required in those areas of the individual development phase where these activities would</p>	<p>Site-specific paleontological mitigation plan</p>	<p>Zoo and construction contractor; qualified paleontologist approved by the City and the Los Angeles County Natural History Museum</p>	<p>City BOE</p>

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<p>disturb previously undisturbed geological units and dependent upon the units present. Monitoring shall be conducted on a full-time basis in areas underlain by the Upper Topanga Formation, and at depths greater than 10 feet bgs in areas underlain by Quaternary alluvium. Monitoring shall consist of:</p> <ul style="list-style-type: none"> • Visually inspecting debris piles and freshly exposed cuts for larger fossil remains • Periodic dry screening sediment, rock, and debris for smaller fossil remains • Recovery of all vertebrate fossil specimens, a representative sample of invertebrate or plant fossils, or any fossiliferous rock sample that may be easily recovered • Diversion of ground disturbing activities away from large or unusually productive fossil localities for the time that is required to recover the resource by the paleontologist or monitor(s) • Notification of the paleontologist or monitor (if not on-site) by the construction crew of any unanticipated discoveries of fossil resources. Ground disturbing activities will be temporarily diverted while the paleontologist or monitor assess the resource and determine if recovery is warranted or if ground-disturbing activities may resume in the area. • Collection of rock or sediment samples of the Upper Topanga Formation or Quaternary alluvium for each construction site for processing for small fossils. The total weight of all processed samples from either rock unit shall not exceed 1,000 pounds (2,000 pounds total). The results of processing initial 250-pound test samples shall be used by the paleontologist in determining how much of the remaining total samples shall be collected and processed. More of the samples shall be processed if the recovered remains are sufficiently concentrated (at least 4-5 identifiable specimens per sample), generally identified to genus or species level, and represent a taxonomically diverse faunal assemblage. With the development of each successive construction site, the 			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>paleontologist or monitor, may specify that less than 1,000 pounds shall be processed, based on the amount of excavation and other ground disturbing activities that would occur in areas underlain by the Quaternary alluvium, 10 feet bgs, or Upper Topanga Formation, and on the results of processing samples from the same rock unit as previous construction sites.</p> <ul style="list-style-type: none"> • Unless potentially fossilized remains are discovered at or near the surface, no paleontological monitoring of ground disturbing activities in the Quaternary alluvium at depths less than 10 feet bgs, and no samples shall be collected or processed. • The paleontologist or monitor shall maintain daily monitoring logs that record the tasks accomplished, locations, where ground disturbing activities and monitoring were conducted, geological units encountered, any fossil specimen recovered, and associated specimen data and geologic and geographic site data. <p>If no fossil remains are found after 50 percent of ground-disturbing activities have been completed in an area underlain by Quaternary alluvium or Upper Topanga Formation, monitoring may be reduced or suspended in the remainder of that area with approval from the City of Los Angeles Bureau of Engineering.</p> <p>If a site-specific mitigation program is required, the paleontologist shall reach a formal agreement with a recognized museum repository, such as the Los Angeles County Natural History Museum, before the mitigation program begins. The agreement shall include specifications regarding final disposition and permanent storage and maintenance of any fossil specimens recovered as part of the mitigation program as well as archiving associated fossil specimen data and corresponding geologic and geographic site data, and level of treatment/preparation of the fossil specimens. The fossil collection shall be donated to a public,</p>			

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<p>nonprofit repository with a research interest in the collection. The costs to be charged by the repository for curating and permanently storing the collected fossil specimens shall be specified in the repository agreement.</p> <p>If paleontological resources are discovered and curated as a result of a required site-specific mitigation program, a final technical report of results and findings shall be prepared by the paleontologist in accordance with City of Los Angeles requirements, as applicable. Copies of the final report and any supporting documentation, including the paleontologist's or monitor's field notes and fossil site maps shall be archived at the designated repository. The final report shall be prepared upon completion of ground disturbing activities for the first applicable phase of Project development. Subsequent reports for additional phases shall be issued as addenda to the first final report. Individual projects whose ground disturbing activities are completed within a single calendar year may be addressed collectively in one report or addendum, as applicable.</p>			
<p>MM GEO-3 Worker Paleontological Resource Awareness Program. Prior to construction of each phase, workers shall receive education regarding the recognition of possible paleontological resources, during grading and excavation. Such training shall provide construction personnel with direction regarding the procedures to be followed in the unlikely event that previously unidentified paleontological materials are discovered during construction. Training shall also inform construction personnel that unauthorized collection or disturbance of paleontological resources is not allowed. The training shall be prepared by a City-approved paleontologist and shall provide a description of paleontological resources that may be encountered in the Project site, outline steps to follow in the event that a discovery is made, and provide contact information for the Project paleontologist and appropriate City personnel. The training shall be conducted concurrent with other environmental or safety awareness and education programs</p>	<p>Worker paleontological resource training program</p>	<p>Zoo and construction contractor; City-approved paleontologist</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>for the Project, provided that the program elements pertaining to paleontological resources is provided by a qualified instructor meeting applicable professional qualifications standards. To prevent inadvertent potential significant impacts to paleontological resources that may be encountered during ground disturbance or construction activities, in the event of any inadvertent discovery of paleontological resources during construction, all work within the vicinity of the resource established by the City-approved paleontologist shall temporarily cease. If a paleontological resource is discovered, the City-approved paleontologist shall be notified to assess the significance of the find and provide recommendations as necessary for its proper disposition and the need for a site-specific mitigation plan, consistent with MM GEO-2.</p>			
Greenhouse Gas Emissions			
No avoidance and minimization measures for this impact area.	N/A	N/A	N/A
Hazards and Hazardous Materials			
<p>MM HAZ-1 Phase II Environmental Site Assessment (ESA). Prior to Project implementation, the City shall prepare a Phase II ESA to address the following:</p> <ul style="list-style-type: none"> Potential soil contamination around known USTs on site. Prior to ground-disturbance, a qualified environmental specialist (e.g., a licensed Professional Geologist [PG], a licensed Professional Engineer [PE] or similarly qualified individual) shall perform soil sampling and analysis to determine whether contamination exists and, if so, the extent of contamination from the following UST locations within the Project site; if contaminants are detected in soil at or above regulatory levels, then the results of the soil sampling shall be reviewed and acted upon by the LAFD and other regional or state regulatory agencies as needed: 	Preparation of a Phase II ESA; soil sampling and analysis; comprehensive survey of ACM, LBP, and molds prior to building demolition	Zoo; qualified environmental specialist; Los Angeles Fire Department	City BOE; Los Angeles Fire Department

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<ul style="list-style-type: none"> • The fueling station in the Zoo Construction Shop and Support area • West of the South Parking Area • North of the Autry Museum. • ACM, LBP, and Molds in Buildings. Prior to any building demolition, the City shall conduct a comprehensive survey of ACM, LBP, and molds. If such hazardous materials are found to be present, the Zoo shall follow all applicable local, state and federal codes and regulations, as well as applicable best management practices, related to the treatment, handling, and disposal of ACM, LBP, and molds to ensure public safety. <p>If the Phase II ESA identifies contamination at or above regulatory levels, prior to the issuance of grading permits for development, it shall be the responsibility of the Zoo to conduct and conclude all investigation and/or remediation activities under the oversight of the applicable regulatory agency (e.g., LAFD, DTSC, SWRCB). Remediation shall be accomplished in accordance with the requirements of the appropriate oversight agency. No Project construction shall occur in the affected area until case closure reports have been approved by the appropriate oversight agency.</p>			
<p>MM HAZ-2 Discovery of Contamination. In the event that previously unknown or unidentified soil and/or groundwater contamination that could present a threat to human health or the environment is encountered during construction at a development site, construction activities in the immediate vicinity of the contamination shall cease immediately. At the start of construction, all construction contractors shall be instructed to immediately stop all subsurface activities in the event that potentially hazardous materials are encountered, an odor is identified, or significantly stained soil is visible. Contractors shall be instructed to follow all applicable regulations regarding discovery and response for hazardous materials encountered during the construction process. A qualified environmental specialist (e.g., a licensed PG, a licensed PE or similarly</p>	<p>If contamination is encountered: cease construction activities, a site investigation would be conducted; preparation of a Human Health Risk Management Plan and/or Site Health and Safety Plan, if necessary</p>	<p>Zoo and licensed contractor(s); qualified environmental specialist</p>	<p>City BOE; Los Angeles Fire Department</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>qualified individual) shall investigate to identify and determine the level of soil and/or groundwater contamination.</p> <p>If contamination is encountered, a Human Health Risk Management Plan shall be prepared and implemented that:</p> <p>(1) identifies the contaminants of concern and the potential risk each contaminant would pose to human health and the environment during construction and post-development, and</p> <p>(2) describes measures to be taken to protect workers, and the public from exposure to potential site hazards. Such measures could include a range of options, including, but not limited to, physical site controls during construction, remediation, long-term monitoring, post-development maintenance or access limitations, or some combination thereof. Depending on the nature of contamination, if any, appropriate agencies shall be notified (e.g., LAFD). If needed, a Site Health and Safety Plan that meets Occupational Safety and Health Administration requirements shall be prepared and in place prior to commencement of work in any contaminated area.</p>			
Hydrology and Water Quality			
<p>MM HYD-1 Construction Sequencing and Design of Onsite Stormwater Management System. The Zoo shall prepare a stormwater management plan prior to Phase 1 Project implementation. The stormwater management plan shall finalize the design of the subterranean stormwater management system with minimum capacity to capture the equivalent of 2-year, 24-hour storm events as proposed by the Project, and shall consider increased capacity to maximize rainfall capture and reuse. The stormwater management plan shall indicate the sizing and design of the underground stormwater collection system for all proposed drainage areas. The stormwater management plan shall also determine the appropriate sequencing of system installation relative to the Project's development phasing to provide continuous stormwater management throughout the 20-year implementation of the proposed Vision Plan. This sequencing</p>	<p>Preparation of a stormwater management plan prior to Phase 1 Project implementation</p>	<p>Zoo and construction contractors</p>	<p>City BOE</p>

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<p>plan shall ensure each phase of development has a functioning onsite stormwater system prior to operation to contain and convey all stormwater flows to the underground cistern(s), to onsite LIDs (e.g., bioswales), and/or to the Zoo’s Wastewater Facility. Sequencing shall avoid or minimize sedimentation into proposed LID features and underground stormwater management system infrastructure, which could lead to a loss of capacity and decrease in water quality benefits. During phased construction of the Project, the City shall also install stormwater storage facilities to supplement the underground cisterns such as rain barrels if needed to temporarily manage stormwater flows. These can be integrated into the Vision Plan redevelopment to be thematically appropriate and visually reminding visitors of the Zoo’s efforts for water conservation.</p> <p>The Zoo shall prepare and submit the stormwater management plan to the City BOE for review and approval prior to issuance of grading permits for each Project phase. All development plans and permits shall reflect the approved sequencing and timing of implementation of stormwater management measures. The Zoo shall be responsible for ensuring all requirements are included in construction plans and implemented as part of construction. All construction activities shall be monitored by a City BOE staff to ensure compliance with the stormwater management plan.</p>			
<p>MM HYD-2 Preparation of a Storm Water Pollution Prevention Plan (SWPPP). For each phase of construction, the City shall require the building contractor to prepare and submit a SWPPP as part of the City’s NPDES Construction General Permit 45 days prior to the start of work for approval. The contractor is responsible for understanding the Construction General Permit and instituting the SWPPP during construction. A SWPPP for site construction shall be developed prior to the initiation of grading and implemented for all construction activity on the Project site in excess of 1 acre, or where the area of disturbance is less than 1 acre but is part of the Project’s plan of development that in total disturbs 1 or more acres. The</p>	<p>Preparation and submittal of a SWPPP prior to start of construction</p>	<p>Zoo and construction contractor; Qualified SWPPP Practitioner</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>SWPPP shall identify potential pollutant sources that may affect the quality of discharges to stormwater and shall include specific BMPs to control the discharge of material from the site, including, but not limited to:</p> <ul style="list-style-type: none"> • Temporary detention basins, straw bales, sand bagging, mulching, erosion control blankets, silt fencing, and soil stabilizers shall be used. • Sufficient physical protection and pollution prevention measures to prevent sedimentation, siltation, and/or debris from entering the onsite storm drain system, proposed stormwater management system, and the Los Angeles River. • Soil stockpiles and graded slopes shall be covered after 14 days of inactivity and 24 hours prior to and during inclement weather conditions. • Fiber rolls shall be placed along the top of exposed slopes and at the toes of graded areas to reduce surface soil movement, as necessary. • Sandbags, or other equivalent techniques, shall be utilized along graded areas to prevent siltation transport to the surrounding areas. • A routine monitoring plan shall be implemented to ensure success of all onsite erosion and sedimentation control measures. • Dust control measures shall be implemented to ensure success of all onsite activities to control fugitive dust. • Streets, parking areas, and paved pathways affected by phased Project construction shall be cleaned daily or as necessary to remove sediment, soils, and other construction debris. • BMPs shall be strictly followed to prevent spills and discharges of pollutants onsite (material and container storage, proper trash disposal, construction entrances, etc.); additional BMPs shall be implemented for any fuel storage or fuel handling that could occur onsite during construction. 			

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<p>The SWPPP must be prepared in accordance with the guidelines adopted by the SWRCB. The SWPPP shall be submitted to the City BOE along with grading/development plans for review and approval. The SWPPP and notices shall be submitted to the SWRCB under their Stormwater Multi-Application, Reporting, and Tracking System (SMARTS). The SWPPP shall be designed to address erosion and sediment control during all phases of development of the site until all disturbed areas are permanently stabilized.</p> <p>All development plans and permits shall reflect the approved erosion control plan and BMPs submitted to the SWRCB. The Zoo shall be responsible for ensuring all requirements are included in construction plans and implemented as part of construction. All construction activities shall be monitored by a City BOE staff to ensure compliance with the SWPPP.</p> <p>All construction activities shall be monitored by City staff to ensure compliance with the SWPPP during grading and after conclusion of grading activities to monitor runoff. A Qualified SWPPP Practitioner shall be retained by the developer for overall management and reporting responsibility regarding the SWPPP and documentation under SMARTS in accordance with their permitting requirement. The City will keep a copy of the SWPPP on the Project site during grading and construction activities.</p> <p>The City shall file a Notice of Completion once construction of each Project phase is complete, identifying that pollution sources were controlled during the construction of the Project and implementing a closure SWPPP for the site.</p>			
<p>MM HYD-3 Avoidance of the Seasonal Storms. Ground disturbing activities such as excavation, grading, earthwork, and installation of the stormwater collection system shall occur during the dry season (May through October), including installation of the storm drains, underground cisterns, hydrological connections, and water pumps for irrigation use. Stormwater management system features shall be fully installed and restored to ensure soil</p>	<p>Ground disturbing activities during the dry season; monitoring by City BOE staff to ensure compliance</p>	<p>Zoo; City BOE</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>stabilization and adequate stormwater conveyance capacity prior to the storm season (October through April). The Zoo shall be responsible for ensuring all requirements are included in construction plans and implemented as part of construction. The City shall review grading and construction plans for all phases to ensure compliance. All construction activities shall be monitored by a City BOE staff to ensure compliance with the grading and construction phasing plans.</p>			
<p>MM HYD-4 Operation and Maintenance Manual. The City shall prepare and submit an Operation and Maintenance (O&M) Manual to ensure LID features and the underground stormwater capture are maintained following installation under the Project. Regular maintenance is critical for the proper operation and longevity of the LID features and stormwater collection system. For example, the O&M Manual would provide maintenance schedules for type and frequency for items such as replacing mulch, trash removal, or sediment removal for bioretention, permeable pavement, and the stormwater collection system. The O&M Manual shall also include guidelines for each LID life-cycle and appropriate reconstruction at the end of the life-cycle. The Zoo shall prepare and submit the O&M Manual to the City BOE and Zoo planning staff for review and approval prior to issuance of grading permits. The Zoo shall be responsible for ensuring all requirements are included in O&M Manual and implemented as part of Zoo operations.</p>	<p>Preparation of an Operation and Maintenance (O&M) Manual</p>	<p>Zoo; City BOE</p>	<p>City BOE</p>
<p>MM HYD-5 Mulch. Immediately following the completion of landscaping installation, gorilla-mulch (i.e., shredded redwood) or similar non-animal waste mulch should be applied to landscaped and bioretention areas to minimize the risk of erosion and sedimentation. The application of mulch would also retain irrigated water within the soil, thereby reducing evaporation and irrigation requirements. Sedimentation in the stormwater collection system would result in degraded water quality, requiring additional</p>	<p>Application of mulch following the completion of landscaping installation</p>	<p>Zoo</p>	<p>City BOE</p>

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<p>treatment prior to stormwater reuse. Bark mulch is not recommended (especially in bioretention) as it tends to float and does not include the beneficial soil building properties of a shredded redwood or similar mulch. The Zoo shall be responsible for ensuring all landscaped areas are mulched as part of construction.</p>			
<p>MM HYD-6 Underground Stormwater Capture Pre-Treatment and Filtering. The Zoo shall develop a pre-treatment and filtering plan and design for the stormwater collection system to ensure that captured water reused for irrigation does not unnecessarily contribute pollutants back into the Zoo’s drainage system. At a minimum, the stormwater collection system must comply with SWRCB safety regulations and County Guidelines for Alternate Water Sources. Additionally, sediment and TSS shall be filtered out to the level required for the proposed irrigation system.</p> <p>The Zoo shall submit pre-treatment and filtering plans to the City BOE and Zoo planning staff for review and approval prior to issuance of grading permits for each Project phase. All development plans and permits shall reflect the approved pre-treatment and filtering features. The Zoo shall be responsible for ensuring all requirements are included in construction plans and implemented as part of construction. All construction activities shall be monitored by City BOE staff to ensure compliance with the pre-treatment and filtering plans.</p>	<p>Preparation of a pre-treatment and filtering plan and design for stormwater collection system</p>	<p>Zoo; City BOE</p>	<p>City BOE</p>
<p>Land Use and Planning</p>			
<p>No avoidance and minimization measures for this impact area.</p>			
<p>Noise and Vibration</p>			
<p>MM NOI-1 Equipment Mufflers. The City and its contractors and subcontractors shall ensure that all construction equipment is operated with closed engine doors and is properly muffled according to manufactures specifications or as required by the City Department of Building and Safety (LADBS), whichever is the more stringent. Use of manufacturer-certified mufflers associated</p>	<p>Use of mufflers on construction equipment</p>	<p>Zoo; construction contractors and subcontractors</p>	<p>City BOE; City Department of Building and Safety</p>

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with construction equipment has been shown to reduce noise levels by a minimum of 8 dBA and up to 10 dBA. These requirements shall be included in all final Project plans and permit documents.			
MM NOI-2 Rubber Tired Equipment. The City and its contractors and subcontractors shall use rubber-tired equipment to the maximum extent feasible during grading, excavation, and building construction activities, rather than metal-tracked equipment, to reduce noise and vibration levels. These requirements shall be included in all final Project plans and permit documents.	Use of rubber-tired equipment during construction	Zoo; City BOE; contractors and subcontractors	City BOE
MM NOI-3 Equipment Idling. California State law prohibits heavy-duty diesel motor vehicles from idling for longer than five minutes (Title 13 CCR Section 2485). Under this mitigation, all construction equipment shall be turned off when not in use for an excess of five minutes, except for equipment that requires idling to maintain performance.	Turning off construction equipment when not in use for an excess of five minutes	Zoo; contractors and subcontractors	City BOE
MM NOI-4 Notification Requirements and Coordination with Neighboring Properties. At least one month prior to the initiation of construction related activities, the Zoo shall prepare and distribute notices to property owners within 500 feet of the Project site, including the Wilson and Harding Golf Courses, Los Angeles Department of Recreation and Parks (RAP), North Hollywood High School Zoo Magnet Center, and the Autry Museum of the American West, as well as affected commercial businesses and residences along the haul truck route. Additional construction-related noise and disturbance signages shall be posted at or along recreational trails in the vicinity of the Zoo and at the Los Angeles Equestrian Center located in the City of Burbank, noticing the public who may use the trails at Griffith Park of future construction activities related to the Project. At a minimum, the notices and signages shall describe the overall construction schedule, advise residents, business owners, employees, and trail users of increased construction-related noise, and provide a non-	Preparation and distribution of notices to surrounding property owners, detailing construction schedule	Zoo; City BOE; Noise Disturbance Coordinator	City BOE

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<p>automated telephone number to call to submit complaints associated with construction noise.</p> <ul style="list-style-type: none"> The Zoo shall retain a Noise Disturbance Coordinator for the duration of Project construction activities. The Noise Disturbance Coordinator shall be responsible for responding to local complaints about construction noise. The Noise Disturbance Coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to sensitive receptors within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the Noise Disturbance Coordinator. <p>Prior to initiating construction activity, the BOE’s construction contractor shall coordinate with the site administrator for the North Hollywood High School Zoo Magnet Center to discuss construction activities that generate high noise levels. Coordination between the site administrator and the construction contractor shall continue on an as-needed basis throughout construction of the proposed Project to mitigate potential disruption of classroom activities.</p>			
<p>MM NOI-5 Temporary Noise Barriers. The City and its contractors and subcontractors shall implement noise attenuation measures to the satisfaction of the LADBS. Prior to the initiation of the proposed realignment of Crystal Springs Drive/Western Heritage Way and south parking area improvements (Phase 1), a solid noise barrier wall shall be erected around the property boundary of North Hollywood High School Zoo Magnet Center. The noise barrier wall shall be designed to achieve the maximum sound attenuation feasible by breaking the line of site to the Project site. The noise barrier wall shall be based on a site-specific acoustic analysis prepared by a qualified acoustic engineer to be approved by the BOE. The noise barrier wall shall be designed to reduce construction-related noise by a minimum</p>	<p>Implementation of noise attenuation measures, including noise barrier wall</p>	<p>Zoo; City BOE; Community Development Director; Los Angeles Department of Building and Safety</p>	<p>City BOE</p>

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<p>of 10 dBA; however, it is expected that the noise barrier wall could decrease construction-related noise levels by up to 15 dBA during certain phases of construction. The noise barrier wall design shall be subject to City staff approval and shall include an art installation (e.g., painting, adhesive pattern design, etc.) that provides visual relief during the Phase 1 construction period.</p>			
<p>MM NOI-6 Noise Reduction Through Design. The City shall design the Zoo’s planning areas to reduce operational noise levels. For example, buildings and noise generating uses, such as the proposed Service Center and Zoo Entry shops, should be oriented such that the open faces of these buildings are facing inwards towards the center of the Zoo. Additionally, noise generators for operational equipment, including but not limited to the aerial tram and funicular motors and generators shall be enclosed to reduce noise exposure.</p>	<p>Project design to reduce operational noise levels; enclosure of certain noise-generating equipment</p>	<p>Zoo; City BOE</p>	<p>City BOE</p>
<p>Public Services</p>			
<p>MM PS-1 Zoo Parking Lot Security Improvements. In coordination with the City and LAPD, the Zoo shall prepare a Parking Lot Security Plan. The Plan shall identify and implement strategies to improve security within the Zoo’s parking areas to reduce vehicle theft/break in or other crimes. Strategies may include but not be limited to installation of surveillance cameras to provide 24-hour video coverage of all Zoo parking areas and frequent foot- or bicycle-based patrolling of the Zoo parking areas by Zoo Security personnel. LAPD shall review and approve the Plan and parking lot security improvements shall be implemented prior to completion of Phase 1. The parking structure improvements proposed as Phase 7 shall be equipped with video surveillance.</p>	<p>Preparation and implementation of a Parking Lot Security Plan</p>	<p>Zoo; City BOE; Los Angeles Police Department</p>	<p>City BOE; Los Angeles Police Department</p>
<p>MM PS-2 Zoo Magnet Center Parking Restrictions. The City and Zoo shall work with the LAUSD North Hollywood High School Zoo Magnet Center to coordinate improvements to the southern Zoo parking lot in Phase 1 of</p>	<p>Zoo Magnet Center parking restrictions during Phase 1 of the Project</p>	<p>Zoo; City BOE; Los Angeles Union School District</p>	<p>City BOE</p>

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<p>the Project. Parking lot design and management shall ensure adequate provision of parking for the Zoo Magnet Center during peak Zoo attendance days. Measures may include, but not be limited to, reserved parking spaces for Zoo Magnet Center school buses and adequate spaces to accommodate teachers, the office administrator, and campus counselor, with an additional reserve space for visitors. Reserved parking stalls shall be in effect during hours of Zoo Magnet Center operation. Signage shall indicate all restrictions on public parking within the southern parking lot. All proposed parking improvements shall be noted on final plans and reviewed and approved by the City Bureau of Engineering and the LAUSD prior to Project construction of Phase 1.</p>			
Recreation			
<p>MM REC-1 Consideration of the Main Trail in Intersection Designs. Should the Zoo pursue improvements to the intersection of Zoo Drive/Western Heritage Way to include a roundabout or grade-separated intersection, the design of the proposed improvements shall be considerate of pedestrian, bicyclist, and equestrian mobility and safety along the Main Trail and ensure that the use of this trail is not hindered. All proposed intersection improvements, including those for design for the mobility and safety of pedestrians, bicyclists, and equestrians shall be incorporated into final plans and reviewed and approved by the City of Los Angeles Bureau of Engineering and the City of Los Angeles Department of Transportation prior to the issuance of permits for these improvements.</p>	<p>Consideration of the Main Trail in intersection designs</p>	<p>Zoo; City BOE; City of Los Angeles Department of Transportation</p>	<p>City BOE</p>
Transportation			
<p>MM T-1 Construction Traffic & Access Management Plan. The Zoo shall prepare, implement, and maintain a Construction Traffic & Access Management Plan during the pre-construction design and permitting for each Project phase to address traffic management during construction. The Construction Traffic & Access Management Plan shall be</p>	<p>Preparation and implementation of a Construction Traffic & Access Management Plan</p>	<p>Zoo; City BOE; Los Angeles Department of Transportation</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>subject to LADOT approval, submitted for Caltrans review, and designed to:</p> <ul style="list-style-type: none"> • Minimize traffic impacts on the surrounding street network within Griffith Park and surrounding areas to the maximum extent feasible during each construction phase; • Minimize impacts to existing public recreational uses and parking to the greatest extent practicable; • Ensure safety for both those constructing the proposed Project and the surrounding community; • Minimize the impacts of truck traffic within Griffith Park; • Avoid conflicts with planned events and festivals within Griffith Park to the greatest extent possible; and • Provide for coordination with adjacent or nearby construction projects. <p>To achieve these outcomes, the Plan shall, at a minimum, include the following:</p> <p>1. Ongoing Requirements throughout the Duration of Construction</p> <ul style="list-style-type: none"> • A detailed Construction Traffic & Access Management Plan for work zones shall be maintained. At a minimum, this shall include parking and travel lane configurations; warning, regulatory, guide, and directional signage; and area sidewalks, bicycle lanes, and parking lanes. The plan shall include specific information regarding the Project’s construction activities that may disrupt normal pedestrian and traffic flow and the measures to address these disruptions. • Work within the public right-of-way (i.e., road realignment, intersection improvements, construction of the proposed parking structure) that is performed before 9:00 AM and after 2:00 PM on weekdays during the school year shall require flaggers and traffic controls to avoid conflicts with pick-up and drop-off at the North Hollywood High School Magnet Center. 			

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<ul style="list-style-type: none"> • Any requests for work before or after normal construction hours within the public right-of-way shall be subject to review and approval through the After-Hours Permit process administered by the Los Angeles Department of Building and Safety. • A Zoo-funded on-site construction monitor shall be present to ensure safety when work occurs within the public right-of-way (i.e., road realignment, intersection improvements, construction of the proposed parking structure), or when more hazardous activities are occurring such as heavy-haul materials delivery or oversize transport. The Construction Traffic & Access Management Plan shall identify the activities that would prompt the presence of an on-site monitor. • Trucks shall only travel on a City-approved construction route. Construction routes shall avoid Griffith Park roads to the maximum extent feasible. Truck queuing/staging shall not be allowed on City streets. Limited queuing may occur on the construction site itself. • Staging areas for construction materials and equipment shall be limited to fenced-off areas within the Zoo campus (with the exception of the road realignment and intersection improvements during Phase 1 and construction of the parking structure during Phase 7). • Materials and equipment shall be minimally visible to the public; the preferred location for materials is to be onsite, with a minimum amount of materials within a work area in the public right-of-way. • Off-street parking shall be provided for construction workers, which may include the use of a remote location with shuttle transport to the site, if determined necessary by the City. • At the discretion of the City, construction work shall not be permitted during City-approved or RAP-sponsored large events or festivals (e.g., Griffith Park Trail Race, Harvest Festival, concerts at the Greek Theatre) within Griffith Park. 			

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<p>2. Project Coordination Elements That Shall Be Implemented Prior to Commencement of Construction</p> <ul style="list-style-type: none"> The Zoo shall advise the traveling public of impending construction activities through active outreach measures (e.g., information signs, portable message signs, media listing/notification, social media, and implementation of an approved Construction Traffic & Access Management Plan). The Zoo shall obtain needed City permits (e.g., Use of Public Property Permit, Oversize Load Permit), as well as any Caltrans permits required, for any construction work requiring encroachment into public rights-of-way, detours, or any other work within the public right-of-way. The Zoo shall provide timely notification of construction schedules to all affected agencies (e.g., Metro, RAP, LAFD, LAPD, Public Works Department, and BOE), as well as adjacent facilities (e.g., Autry Museum of the American West, Zoo Magnet School, Wilson-Harding Golf Course). The Zoo shall coordinate construction work with affected agencies in advance of start of work. Coordination with Metro regarding construction activities that may impact Metro bus lines (e.g., Metro Line 96) or result in closures lasting over 6 months shall be initiated at least 30 days in advance of construction activities. The Zoo shall obtain LADOT approval of any haul routes for earth, concrete, or construction materials and equipment hauling. 			
<p>MM T-2 Zoo Transportation Demand Management (TDM) Program. The Zoo shall prepare and implement a comprehensive TDM program to provide trip reduction strategies for Zoo visitors and employees. The TDM program shall be prepared by a qualified transportation planner and submitted by the Zoo to LADOT for review and approval prior construction activity. The goal of the TDM Program shall be to reduce Zoo employee VMT by 10 percent below</p>	<p>Preparation and implementation of a TDM program</p>	<p>Zoo; City of Los Angeles Department of Transportation, Department of Recreation and Parks; Zoo TDM Coordinator; Los Angeles Union School District</p>	<p>City BOE</p>

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<p>existing conditions by 2040. The TDM Program shall also apply all feasible VMT reduction strategies for visitor vehicle trips to reduce visitor VMT below projected conditions to the maximum extent feasible. The TDM Program shall be developed and approved prior to operation of Phase 1 of the Project and shall be maintained and adjusted as needed continuously.</p> <p>The TDM Program shall be overseen by a Zoo TDM Coordinator. The Zoo TDM Coordinator shall be qualified transportation planner and may be a City/Zoo employee or contractor. The Zoo TDM Coordinator shall monitor visitor and employee mode share with annual surveys, collect and analyze parking and transit use data, and develop annual reports for submittal to BOE and LADOT. The surveys shall capture trip origin data, travel mode, number of people in the party, and other key data and indicators for TDM program performance relative to VMT. The Zoo TDM Coordinator shall ensure that monitoring efforts capture all Zoo-related travel behavior. Annual monitoring reports shall include trip length surveys completed at least biannually by a sample of Zoo patrons and annually by Zoo employees (e.g., trip origin data collection). Monitoring results shall be used to determine the appropriate TDM measures to employ in the coming year to maximize reductions in VMT per capita, champion transit and alternative mode transportation to the Zoo for visitors and employees, develop appropriate incentives to increase the Zoo's transit mode share incrementally over time, and develop effective marketing tools to advertise transit and non-vehicular travel mode availability and incentives.</p> <p>Each annual TDM Program monitoring report shall:</p> <ul style="list-style-type: none"> • Describe the TDM efforts in place at the time to reduce vehicular trips; • Summarize collected survey data and results; • Evaluate parking utilization and transit use, comparing trends and annual changes; 			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<ul style="list-style-type: none"> • Analyze the results of trip reduction measures in reducing VMT relative to projected VMT increases; • Evaluate change in available transportation infrastructure and programs serving the zoo, • Report the effect on zoo employee and visitor VMT per capita and compare to current citywide VMT per capita; and • Provide recommendations for adjustments to the tdm program to adaptively manage VMT reductions for visitors and employees, such as increase the charges of paid parking or expand incentives associated with proposed programs, particularly on peak days. <p>The TDM Coordinator shall oversee annual monitoring and reporting to evaluate the effectiveness of the TDM measures being implemented at the Zoo and recommend adjustments as needed to the TDM Program on an annual basis. The annual report shall be submitted to LADOT for review. The TDM measures shall be assessed and adapted as necessary based on the results of this review. Final annual reports and data (e.g., survey data) shall be shared with the City and made readily available for public review and use. The TDM Coordinator may reference the California Air Pollution Control Officers Association (CAPCOA) <i>Quantifying Greenhouse Gas Mitigation Measures</i> (2010) report and the Federal Highway Administration’s (FHWA’s) <i>Integrating Demand Management into the Transportation planning Process: A Deck Reference</i> (2012), among others, for potential additional measures or adjustments that are determined to be feasible based on the effectiveness of the TDM Program and future conditions.</p> <p>The TDM Program shall be prepared consistent with the Mobility Element and in consultation with LADOT, as well as RAP, if required for measures affecting Griffith Park. Information regarding the TDM program shall be distributed to all Zoo employees and shall be posted on the Zoo’s website and other marketing materials for Zoo visitors and updated annually as needed based on the annual reports.</p>			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>The TDM Coordinator shall consider a range of measures for the TDM Program to reduce employee and visitor VMT per capita, including, but not limited to, the following:</p> <p>1. Measures to Reduce Zoo Employee VMT Per Capita</p> <ul style="list-style-type: none"> • Encourage employee participation in existing vanpool programs, including City employee and Metro vanpool programs, or develop/expand the Zoo vanpool program. • Provide employee incentives to participate in a vanpool program, such as subsidized participant fees, offer in-kind services such as oil change discounts, and provide preferential parking for program participants, and regularly advertise the opportunities to vanpool through a variety of employee communication formats. • Implement a paid parking program to discourage employee vehicle trips to the Zoo and generate revenue that the Zoo may use to expand transit ridership for employee trips. Pricing options of onsite employee parking spaces include pay-per-use or weekly/monthly parking passes. • Partner with rideshare companies such as Uber or Lyft to guarantee availability of an emergency ride home or provide access to City vehicles for this purpose. • Offer employee TDM benefits for use of active transportation commuter modes, including ridesharing, transit, bicycling walking, carpool/vanpool, etc. Incentives for Zoo employees could include flexible scheduling or options for telecommuting, discount transit passes, discounted equipment to employees who bike to work, or discounted equipment (e.g., walking shoes) to employees to walk to work. • Maximize opportunities for Zoo employee to telecommute as part of regular scheduling. • Provide a transportation information center and a commuter club to support a collaborative approach among employees to TDM. 			

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<ul style="list-style-type: none"> • Provide onsite bicycle facilities (i.e., shower, racks, and lockers) for Zoo employees in an amount and location informed by annual employee surveys and monitoring reports. • Encourage bicycles as a primary commute mode for employees and provide incentives for biking to work, including providing free or discounted equipment to employees such as helmets, locks, bicycle commuter gear, and bicycles (electric or non-electric). • Coordinate with LARiverworks, RAP, LADOT, the City of Burbank, and the City of Glendale to identify and facilitate new bicycle and pedestrian linkages and bridges between the Zoo and neighboring communities, particularly linkages to Los Angeles River Bike Path. The Zoo, RAP, and LADOT in consultation with the City of Glendale shall consider development of a new bicycle and pedestrian bridge across Colorado Boulevard, linking neighborhoods within the City of Glendale to Griffith Park, south of the Project site. The Zoo, RAP, and LADOT shall ensure that all bicycle and pedestrian linkages and bridges to Griffith Park are well-signed and provide lighting, are regularly patrolled by law enforcement. • Continue to seek grant funding to support expanded TDM measures to reduce employee VMT per capita. <p>2. Measures to Reduce Zoo Visitor VMT Per Capita</p> <ul style="list-style-type: none"> • Offer discounted Zoo entrance tickets for patrons who bike or use transit to visit the Zoo. Visitors must provide proof of arrival via transit to receive discounted rate. Advertise the availability of ticket discounts for transit through social media and in coordination with RAP, LADOT, and Metro. • Coordinate with Metro to increase bus service frequency to the Zoo bus stop, such as advocating for the implementation of Metro’s proposed Line 501. • Seek funding opportunities to provide proportional share funding in coordination with RAP to expand Parkline 			

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<p>Shuttle service to increase access to Griffith Park and Zoo from nearby Metro light rail stations, as follows:</p> <ul style="list-style-type: none"> • Expand Parkline Shuttle service to connect to the Metro B Line Vermont/Sunset station in the south and the Metro B/G (formerly, Orange) Line North Hollywood station in the north. Shuttle routes should be coordinated with LADOT and RAP. • Extend Parkline Shuttle service hours to begin at 9:30 AM, before the Zoo opens each day. This expanded service should first be targeted to occur during peak demand periods such as Easter, Memorial Day, and during Los Angeles Unified School District (LAUSD) holidays, such as the week of spring break. • Coordinate with RAP to monitor the success of the Parkline Shuttle during such peak periods and to fund expansion of the service over time, as needed, to facilitate and accommodate increased ridership. The program shall then be expanded to broaden the hours and days of operation as needed to meet demand. • Coordinate with RAP on how best to advertise and perform outreach to user groups regarding the availability of this transit service and methods to increase ridership (e.g., social media outreach). • Seek funding opportunities to provide proportional share funding in coordination with Metro and LADOT to provide an express shuttle service to and from Los Angeles Union Station and the Zoo or a connection between the Glendale Metrolink station and the Zoo. <ul style="list-style-type: none"> • Provide Union Station shuttle during operating hours on weekends and legal holidays. This new service shall first be targeted as a pilot program to occur during peak demand periods such as Easter, Memorial Day, and during LAUSD holidays, such as spring break week. If successful, the program shall then be expanded to broaden hours and days of operation. • Coordinate with Metro and LADOT on how best to advertise and perform outreach to user groups regarding the availability of this transit service and 			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>methods to increase ridership (e.g., social media outreach).</p> <ul style="list-style-type: none"> • Maintain and expand onsite bicycle parking for Zoo visitors in an amount and location informed by visitor surveys and annual monitoring reports. <ul style="list-style-type: none"> • Maintain and expand short-term bicycle parking within the Zoo to meet changing demands evaluated in the TDM Program annual reports. • Provide well-lit, clearly signed, bicycle parking that is convenient and in close proximity to the Zoo Entry to encourage bicycling by visitors. • Provide secure short-term bicycle parking and/or a bicycle parking attendant, bicycle valet, or indoor bicycle parking facility to prevent theft and ensure parking availability for Zoo visitors. • Design bicycle racks with space-efficient configurations, such as vertically staggered racks and two-tier racks. • Provide a bike share station at the Zoo as a part of the Metro Bike Share, Ofo, or a new bike share program specific to Griffith Park. Funding shall be determined based on the area required for the bike station. The bike share station shall be well-lit and located at a safe and convenient location adjacent to the Zoo entrance. • Develop and implement a paid parking program for Zoo visitors to discourage personal vehicle trips to the Zoo and provide a secure funding source to help subsidize TDM, transit improvement, and other trip reduction measures, considering the following options: <ul style="list-style-type: none"> • A Peak Period Parking Program would charge for preferred parking during the highest visitation periods, including all weekends (Saturdays and Sundays), holidays, the spring months (April and May), and December, collecting fees for preferred parking on approximately 170 days of the year (based on the 2020 calendar year). 			

9.0. Mitigation Monitoring and Reporting Program

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<ul style="list-style-type: none"> • An Everyday Parking Program would charge for preferred parking 364 days of the year (every day the Zoo is open). • Maintain at least 15 percent of parking spaces as free parking to meet the needs of disadvantaged households and ensure that low-income visitors may continue to visit the Zoo. • The Zoo’s TDM Coordinator shall prepare a quarterly report on the effectiveness of the Paid Parking Program and monthly revenue generated. • Continue to seek grant funding to support expanded TDM measures to reduce visitor VMT per capita. 			
Utilities			
<p>MM UT-1 Recycled Water Use. In accordance with the Green New Deal pLAn and One Water L.A. Plan, the Zoo shall work with LADPW and LASAN to expand recycled water lines (purple pipe) to interior portions of the Zoo. Recycled water shall be used to the maximum extent available for washdown of the animal holding areas, powerwashing walkways and plazas, and flushing toilets, and in the Zoo’s exhibits (e.g., treatment systems, ponds, aesthetics, water features, etc.) if the recycled water is dechlorinated before use, and for fire suppression where feasible. Additionally, all irrigation water demand not covered by stormwater captured in the proposed stormwater collection system (i.e., during dry years), shall be covered by recycled water. The point of connection to the City’s water recycling system would be at the existing 8-inch recycled water main at the west end of the Zoo parking lot in Griffith Park, subject to review and approval of LADPW, LASAN, and BOE. LASAN staff shall ensure the recycled water main connections are incorporated into the final building plans prior grading. City staff shall ensure measures are on all Project plans to ensure that these requirements are implemented.</p>	Expansion of recycled water use to interior portions of the Zoo	Zoo; City BOE; City of Los Angeles Department of Public Works; City of Los Angeles Bureau of Sanitation	City BOE

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<p>MM UT-2 Vision Plan Recommendations. Project components designed and engineered to implement the Vision Plan shall follow all recommendations and guidelines for water, wastewater, and stormwater utilities provided in the Appendix of the Vision Plan. As recommended in the Vision Plan Appendix (New Infrastructure: Plumbing), the Project must provide the following features to reduce maintenance and conserve water:</p> <ul style="list-style-type: none"> • Restrooms <ul style="list-style-type: none"> • Shut-off valve for all fixtures in each restroom, located above the upper terminal water closet and behind a locked access panel. • Water-saving battery-operated infrared-sensored flush valves, with manual override on all water closets. • Push-button, ADA-metered, self-closing faucets on lavatories. • Hose-bibb with vacuum breaker in recessed box with locking cover. • Floor drains with trap primers with floors sloped to drain. • Clean-outs above all urinals, lavatories, and water closets. • Public Restrooms <ul style="list-style-type: none"> • Shut-off valve for all fixtures located above the upper terminal water closet and behind a locked access panel. • Floor drains with trap primers sloped to drain. • Clean-outs above all urinals, lavatories, and water closets. • ADA compliant floor-mounted water closet and countertop lavatory. • Sewer Lines <ul style="list-style-type: none"> • Cast iron soil pipe at all following locations: <ul style="list-style-type: none"> • Within the building and 5 feet outside the building line. 	<p>Implementation of Vision Plan recommendations and guidelines for water, wastewater, and stormwater utilities</p>	<p>Zoo; City BOE</p>	<p>City BOE</p>

9.0. Mitigation Monitoring and Reporting Program

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<ul style="list-style-type: none"> • Running parallel to and within 2 feet of any building or structure. • 6-inch sewer lateral to fire station. • Provide clean-outs above all urinals, lavatories, upper terminal water closets, and sinks. • Provide uniform slope of 0.25-inch fall per foot whenever possible, but never less than 0.125-inch per foot. • Indicate invert elevations of new sewer lines at buildings, changes in direction, locations where sewer lines join and at property lines. • Review existing sewer pipe’s capacities, conditions, and materials. • Floor Drains, Area Drains and Floor Sinks <ul style="list-style-type: none"> • Where drains or sinks are required, slope floor to drain at 0.125 inch per foot. • Floor drains with trap primers are required at restrooms. One floor drain shall be provided front and center for two or more urinals. One floor drain is required for water closets in all restrooms with an additional floor drain when a total of four or more water closets are provided. One floor drain shall be provided for a combination of one water closet and one urinal. • Utility/Service Sink Room <ul style="list-style-type: none"> • Provide wall-mounted stainless-steel mop sink, with floor drain. • Floor sinks with trap primers are required at: <ul style="list-style-type: none"> • Utility/Service sink room. • Kitchens, and where preparation sinks have an indirect waste drain rather than a direct connection. • Trench drain. • Wherever required by the California Plumbing Code or the City Plumbing Code. • Water Systems <ul style="list-style-type: none"> • Use Type L hard copper pipe inside buildings. 			

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<ul style="list-style-type: none"> • Do not run water lines under slab if at all possible. • Provide a shut-off valve to isolate all fixtures in each restroom, kitchens, and any other room with multiple fixtures. • Slope pipes up in direction of water flow to air-elimination devices, or up to a nearby expansion tank, to provide for air elimination from water lines. • Water hammer arrestors are required for lavatories, sinks, fountains, water closets, urinal headers, and other fixtures. • Water Valves and Other Devices <ul style="list-style-type: none"> • Uninterrupted Service: <ul style="list-style-type: none"> • All domestic water supply mains shall be designed in an above-ground valve station with a minimum of two parallel branch lines – a primary and secondary – to provide for uninterrupted service to the site during maintenance of a backflow preventer or a pressure regulating valve. Each branch shall include a backflow preventer with strainer and when the street pressure exceeds 80 psi, a pressure regulator with strainer. • A separate service shall be provided for landscape irrigation, with an above-ground valve station that includes a backflow preventer and a pressure regulator with strainer when the street pressure exceeds manufacturer’s or design suggested range. • Shut-off Valves: <ul style="list-style-type: none"> • All shut-off valves shall be accessible from the room in which fixtures are installed, and shall be located at approximately 3 feet, but not more than 7 feet, from the floor. These valves shall control only fixtures in the room in which they are installed. • Provide shut-off valves for: <ul style="list-style-type: none"> • Each group of fixtures. 			

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Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<ul style="list-style-type: none"> Each restroom. <p><i>The City is required to include the above standard recommended measures from the Vision Plan's Appendix in the final building plans prior to approval. City staff shall ensure measures are on all Project plans to ensure that these requirements are implemented.</i></p>			
Wildfire			
<p>MM WF-1 Wildfire Fuel Management Plan. The Zoo shall retain a City-qualified specialists (i.e., fire management professionals) and City-approved biologist to prepare a Wildfire Fuel Management Plan (WFMP) to design the creation and maintenance of required fire buffers and fuel management zones around the Project site while preserving the integrity of existing native oak woodland, chaparral and coastal sage scrub habitats to the maximum extent feasible. To the maximum extent feasible, native trees and shrubs, such as coast live oak, coastal scrub, and grassland shall be thinned and limbed up but left in place. The WFMP shall be prepared consistent with the requirements of PRC Section 4291 and also detail methods for achieving fire safety around new and existing structures. The WFMP shall incorporate management strategies in coordination with RAP and LAFD to address any needed future management actions in Griffith Park buffering the Project site. Vegetation and other fuels with the management zone(s) shall be maintained by the Zoo in a manner consistent with existing CFC and LAFD regulations to reduce fuel loading in vulnerable areas and to avoid the buildup of deadwood and leaf litter and/or inappropriate storage of flammable materials. Specifically, the WFMP shall describe at least the following elements:</p> <ul style="list-style-type: none"> Vegetation coverage and type within and adjacent to the vegetation management zone(s); Sensitive species identification, mapping, and avoidance; Setbacks between structures, Project site boundaries, and access routes; Location and management procedure for flammable materials use and storage; and 	<p>Preparation and implementation of a Wildfire Fuel Management Plan</p>	<p>Zoo; City-qualified specialists (i.e., fire management professionals, City-approved biologist); Los Angeles Fire Department; Los Angeles Department of Recreation and Parks; California Department of Fish and Wildlife; City of Los Angeles Emergency Management Department</p>	<p>City BOE</p>

Avoidance and Minimization Measure	Monitoring / Reporting Action	Monitoring Party	Responsible Agency
<ul style="list-style-type: none"> Development plan landscaping and planting standards within the setback areas. <p>The Zoo shall submit the WFMP to the City Bureau of Engineering, Emergency Management Department, RAP, LAFD, and California Department of Fish and Wildlife (CDFW) for review and approval prior to issuance of any grading and development plans for improvements under the Project.</p>			
<p>MM WF-2 Evacuation and Fire Response Access Plan. Prior to initiation of each phase of Project implementation, the Zoo shall prepare and implement an Evacuation and Fire Response Access Plan (EFRAP), which shall address conditions and requirements for both construction and operation of the Zoo area affected by the Project. The EFRAP shall be prepared in coordination with the LAFD and RAP. The Zoo Department shall oversee implementation of the EFRAP, including updates of the Los Angeles Zoo Procedures Manual and coordination with the City Emergency Management Department – Planning Division for updates of the City Emergency Operations Plan. The EFRAP shall include, but not be limited to:</p> <ul style="list-style-type: none"> Evacuation of Visitors and Employees <ul style="list-style-type: none"> Designated evacuation routes and exits within the Zoo for Zoo visitors and employees; Wayfinding and signage to assist with route, exits, and meeting area identification during evacuation; Special considerations and requirements for nighttime evacuations; Accommodations for special care or disabled guests or employees; Specified egress points for transportation vehicles and traffic controls to help efficiently evacuate the Zoo’s parking lot; Contingency plans for changes to the construction schedule or phasing plan that would affect the primary evacuation plan and routes; and 	<p>Preparation and implementation of an Evacuation and Fire Response Access Plan</p>	<p>Zoo; City BOE; Los Angeles Fire Department; Los Angeles Department of Recreation and Parks</p>	<p>City BOE</p>

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<ul style="list-style-type: none"> • Regular practice drills (e.g., one per year) for implementation of the EFRAP. • Fire Response Access within the Zoo <ul style="list-style-type: none"> • Specified at least two dedicated ingress points for emergency responders; • Specified firefighter staging or command locations within the Zoo (e.g., northern parking lot or Gottlieb Animal Health Center); and • Traffic controls at gates and intersections to balance ingress/egress needs during evacuation. • Zoo Animal Shelter in Place and Evacuation <ul style="list-style-type: none"> • Shelter-in-place accommodations; and <p>A relocation plan from the Project site to a secondary location or facility, with associated transportation.</p>			