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February 19, 2021

Mr. Norman Mundy
City of Los Angeles
Department of Public Works, Bureau of Engineering
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Subject: Draft Environmental Impact Report for the Los Angeles Zoo and Botanical Gardens Vision Plan Project, City of Los Angeles, Los Angeles County

Dear Mr. Mundy:

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Impact Report (DEIR) from the City of Los Angeles, Department of Public Works, Bureau of Engineering (City; Lead Agency) for the Los Angeles Zoo and Botanical Gardens Vision Plan Project (Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect State fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & Game Code, § 1600 *et seq*.). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & Game Code, §1900 et seq.), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

Project Description and Summary

Objective: The proposed Project is intended to guide future development and modernization of the Los Angeles Zoo (Zoo) for the next 20 years. The Project would include comprehensive redesign and redevelopment of the Zoo to replace outdated and upgrade buildings, infrastructure, animal care facilities, and guest amenities. The Project site refers to the entire 142-acre area subject to the Vision Plan, including 117.3 acres currently developed with Zoo facilities and transportation infrastructure and 24.7 acres proposed for new development.

The Project provides guiding principles that would apply to future ongoing Zoo operations and redevelopment of Zoo buildings and infrastructure within nine themed boundaries, referred to as "planning areas" within the Project site.

For the purposes of this DEIR, Phases 1, 2, and 3 are considered near-term improvements (within 10 years) and would be completed by 2030.

Phase	Project Components
1	**Zoo Entry** ***Bold** indicates Planning Area
	- Excavation of outdated utilities
	- Install utility trunk lines at the Zoo Entry
	- Grade entry corridor at 5 percent slope or less
	- Construct a new gift shop, security and first aid center, public program space, restaurant, and administration buildings
	- Construct main ground tram station
	- Expand Sea Life Cliffs
	- Install water collection lines for subsurface cisterns
	- Landscaping at entrance and around buildings
	California Planning Area
	- Demolish existing buildings
	- Excavate Condor Canyon
	- Construct California Condor Rescue Zone
	- Construct expanded animal facilities
	- Construct new California Visitor Center with funicular
	- Install lower terminal for aerial tram and associated infrastructure
	- Install new vegetation, including an active vineyard
	Circulation and Parking
	- Install signal at the intersection of I-5 and Western Heritage Way
	- Demolish Zoo planning trailer in the southern parking lot
	- Grading and reconfiguration of Crystal Springs Road
	- Repave lot and paint parking space lines to add 300 additional parking spaces
2	**Asia Planning Area**
	- Demolish existing outdated buildings and animal facilities
	- Expand elephant space
	- Construct the Asian Forest with lagoon and island
	- Renovate and expand existing animal facilities and habitats

	- Install new underwater viewing for tiger and gharial spaces and new water elements
	- Grade and construct new pathways with neighboring animal facilities (e.g. *Islands* and *Nature Play Park*)
	- Reconstruct Treetops Visitor Center into restaurant/event center
	- Install Splash Area
	- Install new vegetation, including dense rainforest trees
	Nature Play Park
	- Relocate and renovate existing natural play areas
	- Construct a new restaurant with deck and terrace
	- Construct new restrooms
3	**Africa Planning Area**
	- Demolish existing outdated buildings and animal facilities
	- Excavate hillside for development
	- Construct the Africa Visitor Center
	- Construct expanded animal facilities and habitats
	- Install a manmade river
	- Install aerial tram
	Service Areas
	- Demolish outdated North America animal facility buildings
	- Construct a new service area
	- Paint 56 new employee parking spaces

The Vision Plan includes several long-term elements (10-20 years), including conceptual development plans for Phases 4, 5, 6, and 7 that are expected to be implemented through the Vision Plan's horizon (2040).

Phase	Project Components
4	**World Aviary Planning Area** ***Bold** indicates Planning Area
	- Renovate the existing aviary to meet ADA requirements
	- Construct a new bird rearing complex
	- Construct new roads connecting *Rainforest* and *California*
	Bird Show and Animal Programs
	- Renovate the existing amphitheater area with shade structures
	- Construct specialized animal care facilities
	- Renovate service space behind amphitheater for operations
	Services Area (Condor West)
	- Construct two aviaries and one new conservation/classroom building at the Condor West animal facility
	- Create a new animal feed storage and commissary operations structure
	- Reconfigure truck access to the construction services area
	- Repaint 92 employee parking spaces
5	**Islands**
	- Renovate and expand the existing Australia House
	- Install new pathways and landscaping
6	**Administration Building**

	- Construct a new Administration Building
7	**Parking Structure and Zoo Drive Intersection Improvements**
	- Excavation and grading
	- Construct multi-level parking structure and further intersection improvements
	- Install adjacent public park
	- Replacement of signalized intersection at Zoo Drive / Western Heritage Way with either a roundabout or sub-grade bypass

The California and Africa Planning Areas may be particularly impactful as the City proposes expansion into nearby open space that will result in the removal of significant acreage of vegetation.

Location: The proposed Project is located at 5333 Zoo Drive in the City of Los Angeles. It is generally bordered by the Golden State Freeway (Interstate 5) to the east and the Ventura Freeway (California State Route 134) to the north. The 142-acre Project site if in the northeastern portion of Griffith Park, at the base of the foothills of the Santa Monica Mountains.

Comments and Recommendations

CDFW had a meeting with representatives for the City of Los Angeles and the Los Angeles Zoo on September 16, 2020 to discuss the proposed Project. Based on the documents provided and previous discussions, CDFW offers the comments and recommendations below to assist the City in adequately identifying, avoiding and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

Project Description and Related Impact Shortcoming

Comment #1: Impacts to Aquatic and Riparian Resources

Issue: CDFW is concerned that the Project may impact streams in the canyons and open space surrounding the LA Zoo.

Specific impacts: According to page 3.10-40 of the DEIR, "[s]everal specific components in the near-term phases would result in major earthwork activities that have a higher potential for mobilization of soils (e.g., erosion) and pollutants that could affect the quality of receiving water bodies (e.g., Los Angeles River) and the Zoo's storm drain system and Zoo Wastewater Facility." Excavation and construction of Condor Canyon through the hillside area in the California planning area is likely to impact an ephemeral drainage located at the bottom of the existing canyon. These Project activities are likely subject to notification under Fish and Game Code section 1600 *et seq*.

Why impacts would occur: The Project's proposal to grade and develop the Project site could result in impacts to streams and coast live oak forest. The Project may alter, develop, and divert ephemeral and episodic streams, resulting in permanent impacts to drainages. Altering streams within the Project's development, grading, and fuel modification zones could impair headwater streams where there is hydrologic connectivity. The Project's proposal to remove roughly 6 acres of coast live oak forest may also impact streams. Oak woodlands serve several important ecological functions such as protecting soils from erosion and land sliding, regulating water flow

in watersheds, and maintaining water quality in streams and rivers. Removing coast live oak forest may increase sediment, debris, and pollutant input into streams. Erosion may be more likely where Project vegetation removal would occur.

Evidence impact would be significant: Fish and Game Code section 1602 requires any person, State or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake;
- Change the bed, channel, or bank of any river, stream, or lake;
- Use material from any river, stream, or lake; or,
- Deposit or dispose of material into any river, stream, or lake.

The Project may impact streams, which absent appropriate mitigation, could result in substantial erosion or siltation within the Project's development, grading, and fuel modification zones and/or or upstream of those zones. Furthermore, the Project may result in loss of riparian habitat.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: The Project may result in the alteration of ephemeral drainages, which would be subject to notification for a Lake and Streambed Alteration (LSA) Agreement pursuant under Fish and Game Code, section 1600 *et seq*. The Project applicant (or "entity") must provide notification to CDFW pursuant to Fish and Game Code, section 1600 *et seq*. Based on this notification and other information, CDFW determines whether an LSA Agreement with the applicant is required prior to conducting the proposed activities. Please visit CDFW's Lake and Streambed Alteration Program webpage to for information about LSA Notification and online submittal through the Environmental Permit Information Management System (EPIMS) Permitting Portal (CDFW 2020a). LSA Notification should occur prior to the City's issuance of a grading permit.

Mitigation Measure #2: The LSA Notification should include a hydrology report to evaluate whether altering streams within the Project's development, grading, and vegetation clearing areas could impair headwater streams where there is hydrologic connectivity. The hydrology report should also include a scour analysis to demonstrate that stream banks and streambed would not erode as a result of impacts downstream.

Mitigation Measure #3: As part of the LSA Notification process, CDFW requests a map showing features potentially subject to CDFW's broad regulatory authority over streams. CDFW also requests a hydrological evaluation of the 200, 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions.

Mitigation Measure #4: CDFW recommends the Project mitigate for impacts to streams and riparian habitat by replacing habitat at no less than 5:1 for all temporary and permanent impacts to streams and riparian habitat. This follows the recommendations in Table 5 of the *Significant Ecological Areas (SEA) Ordinance Implementation Guide, Effective January 16, 2020*, which applies to the adjacent open spaces in the Griffith Park SEA. Mitigation lands should support streams and coast live oak forest of similar vegetation composition, density, coverage, and species richness and abundance.

Mitigation Measure #5: As part of the LSA Notification process, the City should identify impacts and potential mitigation sites prior to drafting an LSA Agreement. CDFW recommends the City acquire mitigation lands immediately adjacent to the Project as dedicated open space and preserve in perpetuity as one contiguous parcel. Mitigation lands should be located away from the Project's fuel modification zone. If additional acres are not available for purchase that support streams and coast live oak forest, CDFW recommends the City identify mitigation lands that could expand the undisturbed natural spaces of the Griffith Park and enhance wildlife habitat, corridors, and diversity.

Mitigation Measure #6: Mitigation lands should be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands pursuant to Assembly Bill 1094 (2012). Assembly Bill 1094 amended Government Code sections 65965-65968. Under Government Code section 65967(c), the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves. An appropriate non-wasting endowment should be provided for the long-term management of mitigation lands. A mitigation plan should include measures to protect the targeted habitat values in perpetuity from direct and indirect negative impacts. Issues that should be addressed include, but are not limited to, restrictions on access, proposed land dedications, control of illegal dumping, water pollution, and increased human intrusion. A conservation easement and endowment funds should be fully acquired, established, transferred, or otherwise executed prior to the City's issuance of a grading permit.

Recommendation #1: CDFW's issuance of an LSA Agreement for a Project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document from the City for the Project. To minimize additional requirements by CDFW pursuant to Fish and Game Code section 1600 *et seq*. and/or under CEQA, the CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement.

Any LSA Agreement issued for the Project by CDFW may include additional measures protective of streambeds on and downstream of the Project site. The LSA Agreement may include further erosion and pollution control measures. To compensate for any on- and off-site impacts to riparian resources, additional mitigation conditioned in any LSA Agreement may include the following: avoidance of resources, on- and/or off-site habitat creation, enhancement or restoration, and/or protection, and management of mitigation lands in perpetuity.

Comment #2: Impacts to Oak Trees and Oak Woodlands

Issue: Based on proposed designs for the Project, two planning areas are likely to see expansion into the nearby open space on the hills located generally to the west of the Zoo. These hillsides are relatively undisturbed coast live oak woodlands (*Quercus agrifolia*) and coastal sage scrub. Furthermore, California black walnut (*Juglans californica*) were acknowledged as "present in the oak woodland on the western boundary of the Zoo, mostly appearing as root sprouts around older cut trees."

Specific impacts: According to page 2-43 of the DEIR, "[t]he 21-acre California planning area would provide new space for California species and landscapes. The new planning area would require development of 16.5 acres of presently undeveloped hillsides west of the Zoo Entry…. Development of California, particularly Condor Canyon would require grading and excavation to bedrock to create the canyon. Blasting could potentially be required to create the canyon. Land clearing would result in tree removal, including mature eucalyptus and small to mid-size native oak trees, as well as removal of native chapparal."

According to page 3.3-11 of the DEIR, "[t]he largest area of roughly 6 acres of coast live oak woodlands is found on the western side of the Zoo on an undeveloped, northeast-facing hillside surrounded by paved access roads and a retaining wall on the east side, within the proposed Africa planning area…. A total of 120 mature coast live oak trees exist with the three areas, with the vast majority (113) are concentrated with the 6 acres of coast live oak woodlands within the proposed Africa planning area."
For the Africa planning area, the Project proposes "revitalizing almost 23 acres of existing animal facilities and new development including approximately 7 acres of undeveloped hillside with steep grades." To accommodate these improvements to existing facilities and expansion into the hillside, between six and seven acres of coast live oak woodland, containing 120 mature trees, will have to be cleared and graded.

Why impacts would occur: Project implementation includes grading, vegetation clearing, trail construction, trail maintenance, and other activities. This may result in permanent loss and potentially decline or local extirpation of a sensitive plant community.

Evidence impacts would be significant: Coast live oak grows in riparian areas, sheltered coves, and deep, moist, shady ravines and canyons (Tollefson 2008). Riparian habitats provide important food, nesting habitat, cover, and migration corridors for wildlife. Only 5 to 10 percent of California's original riparian habitat exists today and much of the remaining habitat is in a degraded condition (NRC 2002). Additionally, oak trees and woodlands are protected by the Oak Woodlands Conservation Act (pursuant under Fish and Game Code sections 1360-1372) and Public Resources Code section 21083.4 due to the historic and on-going loss of these resources. CDFW considers oak woodlands a sensitive vegetation community.

CDFW considers plant communities, alliances, and associations with a statewide ranking of S1, S2, S3, and S4 as sensitive and declining at the local and regional level (Sawyer et al. 2008). An S3 ranking indicates there are 21 to 80 occurrences of this community in existence in California, S2 has 6 to 20 occurrences, and S1 has less than 6 occurrences. Impacts to sensitive vegetation communities should be considered significant under CEQA unless they are clearly mitigated below a level of significance. Inadequate avoidance, minimization, and mitigation measures for impacts to sensitive plant species will result in the Project continuing to have a substantial adverse direct, indirect, and cumulative effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or U.S. Fish and Wildlife Service (USFWS).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: In order to ensure no net loss of oak trees/oak woodlands, CDFW recommends the following replacement ratios: (1) trees less than 5 inches diameter at breast

height (DBH) should be replaced at 2:1; (2) trees between 5 and 12 inches DBH should be replaced at 3:1; (3) trees between 12 and 24 inches DBH should be replaced at 5:1; (4) trees greater than 24 inches DBH should be replaced at 10:1. Oak trees should be used to recreate functioning oak woodland of similar composition, density, structure, and function to the selected oak woodland that was impacted.

Mitigation Measure #2: Project mitigation should restore, at minimum, equivalent acreage of impacted oak woodlands in approximately the same composition and orientation as Project impacts. The mitigation site should mimic the pre-Project percent basal, canopy, and vegetation cover of oak woodland impacted. Associated understory and early successional native species should be planted and monitored along with trees to achieve viable habitat and adequately compensate for biological functions lost.

Mitigation Measure #3: Prior to any Project ground-disturbing activities, the City should develop and implement an Oak Woodland Mitigation Program, as a part of the Biological Resources Mitigation and Monitoring Program (BRMMP), with the following components:

1) An inventory of all oak trees removed or encroached upon during project activities, separated by species and DBH;
2) Acres of oak woodlands impacted, and density, coverage, and abundance of understory vegetation species impacted by life form (i.e., grass, forb, shrub, subshrub, vine);
3) Mitigation ratios applied and total number and/or area of replacement trees and vegetation;
4) Location of restoration areas and a discussion of the adequacy of the location(s) to serve as mitigation (e.g., would support oak trees/oak woodlands; avoid habitat type conversion);
5) The location and assessment of appropriate reference site(s) to inform the appropriate planting rate to recreate the pre-project function, density, percent basal, canopy, and vegetation cover of oak woodland impacted;
6) Scientific [Genus and species (subspecies/variety if applicable)] of all plants being used for restoration;
7) Location(s) of propagule source. Propagules should be collected or grown from on-site sources or adjacent areas within the same watershed and should not be purchased from a supplier. Seeds must originate from plants/trees of the same species (i.e., Genus, species, subspecies, and variety) as the species impacted;
8) Species-specific planting methods (i.e., container or bulbs);
9) Planting schedule;
10) Measures to control exotic vegetation and protection from herbivory;
11) Measurable goals and success criteria for establishing self-sustaining populations (e.g., percent survival rate, absolute cover). Measurable success criteria should be based on present site/habitat conditions and/or functional local native oak woodlands as reference sites;
12) Contingency measures should the success criteria not be met;
13) Long-term monitoring for at least 10 years;
14) Adaptive management techniques, including replacement plants if necessary; and,
15) Annual reporting criteria and requirements.

Mitigation Measure #4: If on-site oak woodland mitigation is not feasible, CDFW recommends the City set aside replacement habitat to be protected in perpetuity under a conservation

easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands. Mitigation lands should be in the same watershed as the Project site and replace at minimum the acreage of oak woodlands of similar composition as the oak woodlands impacted. An appropriate non-wasting endowment should be provided for the long-term management of mitigation lands. A conservation easement and endowment funds should be fully acquired, established, transferred, or otherwise executed prior to implementing Project-related ground-disturbing activities and prior to the City's issuance of grading permits.

Mitigation Measure #5: For oak and walnut tree replacement, CDFW recommends monitoring and managing replacement trees and habitat for 10 years as opposed to the 5 years suggested in the DEIR. Oak trees are very long-lived species and take up to 20 years to show signs of stress and disease. The monitoring period should include a minimum of seven (7) years without supplemental irrigation. This allows the trees to go through one typical drought cycle, as the Los Angeles region's climate typically runs in seven-year drought cycles on average. This should also be the minimal time needed to see signs of stress and disease in order to determine the need for replacement plantings.

Recommendation #1: In 2007, the State Legislature required CDFW to develop and maintain a vegetation mapping standard for the State (Fish & G. Code, § 1940). This standard complies with the National Vegetation Classification System, which utilizes alliance and association-based classification of unique vegetation stands. CDFW utilizes vegetation descriptions found in the Manual of California Vegetation (MCV) (CNPS 2020; Sawyer et al. 2008). To determine the rarity ranking of vegetation communities on the Project site, the MCV alliance/association community names should be provided as CDFW only tracks rare natural communities using this classification system. This would allow CDFW to appropriately comment on potential impacts to sensitive plants and vegetation communities.

Recommendation #2: CDFW recommends a phased approach to the removal of on-site trees within each of the planning areas. Removing dozens of trees in quick succession could be detrimental to on-site and nearby wildlife that is reliant upon that habitat. A phased approach of removing a portion of trees at a given time allows for wildlife to seek refuge in nearby vegetation without losing the entirety of the habitat at once.

Recommendation #3: CDFW has concerns that the remaining open space on the Zoo property would not be sufficient in area for planting replacement trees at an effective density for successful restoration of woodland habitat. CDFW recommends identifying off-site coast live oak and California black walnut restoration locations in immediate proximity to the Project site. This information should be included in the development of an Oak Woodland Mitigation Program (as suggested in the above Mitigation Measure #3) as part of the larger Biological Resources Mitigation and Monitoring Program (BRMMP), pursuant to MM BIO-1 of the DEIR.

Comment #3: Impacts to California Species of Special Concern

Issue: CDFW is concerned that Project-related activities may result in significant impacts to the following Species of Special Concern (SSC):

- *Reptiles*: Southern California legless lizard (*Aniella stebbinsi*)
- *Mammals:* San Diego woodrat (*Neotoma lepida intermedia*)

Page 3.3-37 of the DEIR states that "[t]here are multiple historic records of the species within one to two miles of the Zoo boundary, one of which is from as recently as 2011 within oak woodland habitat. Given that this species has been documented in the vicinity and suitable habitat is present within the oak woodlands, there is a moderate potential for this species to occur on site." A review of California Natural Diversity Database (CNDDB) supports these statements as there are historic records of legless lizard roughly 0.75 miles south and 1.5 miles west of the Project site in Griffith Park.

As indicated on Page 3.3-38 of the DEIR, "[t]he presence of woodrat middens indicates that suitable woodrat habitat is present in the scrub communities of the Project site. Thus, the potential for occurrence of the San Diego woodrat is high."

Specific impact: Project construction and related activities, directly or through habitat modification, may result in direct injury or mortality of SSC.

Why impact would occur: MM-BIO-2.2.a of the DEIR states that "[i]f present, special-status animal species, such as woodrat, legless lizard, and bat species, shall be relocated from the Project site either through direct capture or through passive exclusion prior to construction activities." Please visit CDFW's Scientific Collection Permits webpage for information (CDFW 2020d).

While relocation is one option for mitigating impacts, it may not fully account for impacts to an SSC, such as loss of individuals, loss of habitat, or loss of natal dens/middens/burrows. Capturing, handling, or relocation are acts that may have multiple unintended negative consequences, including increased stress and mortality of relocated animals, negative impacts on resident animals at release sites, increased conflicts with human interests, and the spread of diseases (Dodet el al. 2008). Attempts to avoid impacts to SSC should be the first option. Seeking a scientific collecting permit in order to trap and relocate individuals should only be done if impacts cannot be avoided.

Evidence impact would be significant: An SSC is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role.
- is listed as ESA-, but not CESA-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status.
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA status (CDFW 2020c).

Project construction and activities, directly or through habitat modification, may result in direct mortality, reduced reproductive capacity, population declines, or local extirpation of SSC. CEQA provides protection not only for State and federally listed species, but for any species including but not limited to SSC which can be shown to meet the criteria for State listing. These SSC

meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15065). Take of SSC could require a mandatory finding of significance by the City, (CEQA Guidelines, § 15065).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: Pursuant to the California Code of Regulations, title 14, section 650, the City/qualified biologist must obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities. Please visit CDFW's Scientific Collection Permits webpage for information (CDFW 2020d). An LSA Agreement may provide similar take or possession of species as described in the conditions of the agreement.

CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650).

Mitigation Measure #2: The City should retain a qualified biologist(s) with experience surveying for or is familiar with the life history of each of the following species: Southern California legless lizard and San Diego woodrat. The qualified biologist should conduct focused surveys for SSC and suitable habitat no more than one month from the start of any ground-disturbing activities or vegetation removal where there may be impacts to SSC. In addition, the qualified biologist should conduct daily biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of SSC and suitable habitat at the detection location should be mapped and photographed. The qualified biologist should provide a summary report of SSC surveys to the City prior to implementing any Project-related ground-disturbing activities and vegetation removal. Depending on the survey results, a qualified biologist should develop species-specific mitigation measures for implementation during the Project.

Mitigation Measure #3: Wildlife should be protected, allowed to move away on its own (non-invasive, passive relocation), or relocated to adjacent appropriate habitat on site or to suitable habitat adjacent to the project area. SSC should be captured only by a qualified biologist with proper handling permits. The qualified biologist should prepare a species-specific list (or plan) of proper handling and relocation protocols and a map of suitable and safe relocation areas. A relocation plan should be submitted to the City prior to implementing any Project-related ground-disturbing activities and vegetation removal.

Mitigation Measure #4: The City, in consultation with a qualified biologist, should prepare a worker environmental awareness training. The qualified biologist should communicate to workers that upon encounter with an SSC (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.

Mitigation Measure #5: If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area should stop immediately. The qualified biologist should be

notified, and dead or injured wildlife documented. A formal report should be sent to CDFW and the City within three 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 additional injury or death.

Comment #4: Impacts to Crotch's Bumble Bee

Issue: The DEIR concluded that Crotch's bumble bee (*Bombus crotchii*), an invertebrate of conservation, has a low likelihood to be present at the Project site but acknowledges recent observations close by but not within the site. CNDDB supports this concern showing a recent recorded observation from 2019 roughly one mile south of the Project site in Griffith Park. The Project has not provided mitigation for potential impacts to Crotch's bumble bee. The DEIR has not provided Crotch's bumble bee survey to conclude the species is absent.
Specific impacts: The Project as proposed would grade and/or develop habitat that could support Crotch's bumble bee. The Project may result in temporal or permanent loss of suitable nesting and foraging habitat for Crotch's bumble bee. Project ground-disturbing activities and vegetation removal may cause death or injury of adults, eggs, and larva, burrow collapse, nest abandonment, and reduced nest success.

Why impacts would occur: The Project has not provided mitigation for potential impacts to Crotch's bumble bee. Ground disturbance and vegetation removal associated during the breeding season could result in the incidental loss of breeding success or otherwise lead to nest abandonment in areas adjacent to the Project site. The Project may result in temporal or permanent loss of colonies and suitable nesting and foraging habitat.

Evidence impact would be significant: Crotch's bumble bee is listed as an invertebrate of conservation priority under the California Terrestrial and Vernal Pool Invertebrates of Conservation Priority (CDFW 2017). Crotch's bumble bee has a State ranking of S1/S2. This means that the Crotch's bumble bee is considered critically imperiled or imperiled and is extremely rare (often 5 or fewer populations). Also, Crotch's bumble bee has a very restricted range and steep population declines make the species vulnerable to extirpation from the State (CDFW 2017). Accordingly, Crotch's bumble bee meets the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380). Therefore, take of Crotch's bumble bee could require a mandatory finding of significance by the City (CEQA Guidelines, § 15065).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: Due to suitable habitat within the Project site, within one year prior to grading and/or vegetation removal, a qualified entomologist familiar with the species behavior and life history should conduct surveys to determine the presence/absence of Crotch's bumble bee. Surveys should be conducted during flying season when the species is most likely to be detected above ground, between March 1 to September 1 (Thorp et al. 1983). Survey results, including negative findings, should be submitted to the City prior to implementing Project-related ground-disturbing activities and/or vegetation removal where there may be impacts to Crotch's bumble bee. At minimum, a survey report should provide the following:

a) A description and map of the survey area, focusing on areas that could provide suitable habitat for Crotch's bumble bee;
b) Field survey conditions that should include name(s) of qualified entomologist(s) and brief

qualifications; date and time of survey; survey duration; general weather conditions; survey goals, and species searched;

c) Map(s) showing the location of nests/colonies; and,
d) A description of physical (e.g., soil, moisture, slope) and biological (e.g., plant composition) conditions where each nest/colony is found. A sufficient description of biological conditions, primarily impacted habitat, should include native plant composition (e.g., density, cover, and abundance) within impacted habitat (e.g., species list separated by vegetation class; density, cover, and abundance of each species).

Mitigation Measure #2: If Crotch's bumble bee is detected, the City in consultation with a qualified entomologist should develop a plan to fully avoid impacts to Crotch's bumble bee. The plan should include effective, specific, enforceable, and feasible measures. An avoidance plan should be submitted to the City prior to implementing Project-related ground-disturbing activities and/or vegetation removal where there may be impacts to Crotch's bumble bee.

Mitigation Measure #3: If Crotch's bumble bee is detected and if impacts to Crotch's bumble bee cannot be feasibly avoided during Project construction and activities, the City/qualified entomologist should coordinate with CDFW to obtain appropriate handling permits for incidental take of Crotch's bumble bee and provide appropriate mitigation for impacts to Crotch's bumble bee habitat. CDFW recommends the City mitigate for impacts to Crotch's bumble bee habitat at a ratio comparable to the Project's level of impacts.

Comment #5: Inadvertent Wildlife Death Along Perimeter Fencing

Issue: CDFW is concerned about inadvertent loss of wildlife related to security fencing around the Zoo property. During a meeting between LA Zoo officials and CDFW, it was mentioned that there are regular occurrences of local wildlife, mostly birds, being caught in the security fencing around the perimeter of the Zoo property.

Specific impacts: The Zoo is bordered by perimeter wildlife exclusion fencing intended to limit wildlife entry into the Zoo. The type of fence being used has contributed to unexpected injuries and deaths of local wildlife.

Why impacts would occur: Zoo personnel currently monitors the perimeter fence for the purposes of security. They are primarily concerned with potential access either via gaps in fencing or tree limbs that may provide entry over the fence. Without placing a priority on regularly searching for trapped, injured, or stranded animals, the City is overlooking the potential to mitigate impacts to local wildlife populations.

Evidence impact would be significant: Running animals and low-flying birds may not see a wire fence clearly against the landscape. Birds can collide with fences, breaking wings, impaling themselves on barbs, and tangling in wires. Large, low-flying birds such as ducks, geese, cranes, grouse, hawks, and owls are especially vulnerable. Waterfowl fly into fences that run near or across waterways, and low-flying hawks and owls may careen into fences when swooping in on prey.

A study of wildlife mortality along more than 600 miles of fences in rangelands (Harrington and Conover 2006) found:

- on average, one ungulate per year was found tangled for every 2.5 miles of fence;
- juveniles are eight times more likely to die in fences than adults;
- mortalities peaked during August, when fawns were weaned;
- 70 percent of all mortalities were on fences higher than 40 inches;
- on average, one ungulate was found dead next to every 1.2 miles of fence; and
- 90 percent of carcasses found near fences were fawns separated from their mothers.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: Perimeter fence monitoring plan. CDFW recommends the City develop protocol for monitoring the perimeter fence for trapped, injured, or dead wildlife. To better understand and prevent avoidable impacts to local wildlife species, it would benefit the City to record the number and type of occurrences, develop responsive actions, and avert future potential injuries or deaths. With these data, the City can better identify problem locations or times of year and adjustments can be made to protocol. CDFW recommends more frequent monitoring of the fence line to inspect for trapped animals and release any wildlife that may be caught in the perimeter fencing.

Mitigation Measure #2: Security Fencing Options. CDFW recommends the City consider alternative design options for fencing that may be less likely to be harmful to local wildlife, such as the removal of barbed wire or razor wire along the top. CDFW recommends more frequent monitoring of the fence line to inspect for trapped animals and release any wildlife that may be caught in the perimeter fencing.

Mitigation Measure #3: Perimeter Fencing. CDFW recommends that any fencing used during and after the Project be constructed with materials that are not harmful to wildlife. Prohibited materials should include, but are not limited to, spikes, glass, razor, or barbed wire. Use of chain link and steel stake fence should be avoided or minimized as this type of fencing can injure wildlife or create barriers to wildlife dispersal. All hollow posts and pipes should be capped to prevent wildlife entrapment and mortality. These structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the Project site should be plugged with bolts or other plugging materials to avoid this hazard. Fences should not have any slack that may cause wildlife entanglement.

Mitigation Measure #4: To avoid collisions or entanglements, CDFW recommends that the perimeter fencing be made more visible via the addition of a PVC cover, high-visibility wire, flagging, or a top rail.

Additional Recommendations

Recommendation #1: Sensitive plant and community replacement. MM BIO-1.1.e.iii. states that "off-site restoration of affected native vegetation communities and special-status plant species shall occur at a minimum ratio of 3:1". This would apply to all of the sensitive plant species potentially occurring on the Project site. CDFW recommends applying species-specific and community-specific replacement ratios based on considerations such as plant rarity, local demographics, and location of mitigation. Depending on these characteristics, overall Project-related impacts and subsequent mitigation for a given sensitive plant or community may vary.

For example, removal of 10 plants that have a CNPS rarity ranking of 1B.2 may be viewed as being a greater impact than removal of 10 plants ranked 4.2.

Recommendation #2: Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of moving an individual plant or animal from the Project site and permanently moving it to a new location. CDFW generally does not support the use of translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.

Recommendation #3: Impacts to Nesting Birds. In addition to the currently proposed mitigation measure MM BIO-4 for nesting birds in DEIR, CDFW recommends adding language that the City will halt work upon positive detection of an active nest. Positive detections should be reported to CDFW prior to any Project-related ground disturbing activities or vegetation removal.

Recommendation #4: Temporary Exclusion of Nesting Birds. It should be noted that the temporary exclusion of Project activities within nesting buffers during nesting season may not constitute effective mitigation for the purposes of offsetting Project impacts associated with loss of breeding and nesting habitat. Effective mitigation for impacts to nesting habitat for birds requires structurally (e.g., ground cover, subshrubs, shrubs, and trees) and species diverse vegetation as a part of habitat restoration.

Additional mitigation, separate from impacts to vegetation communities, would be necessary to compensate for the temporal or permanent loss of occupied nesting habitat within the Project site. CDFW recommends the qualified biologist/City consult with CDFW to determine proper mitigation for impacts to occupied habitat. Mitigation would be based on acreage of impact and vegetation composition. Depending on the status of the bird species impacted, replacement of habitat acres should increase with the occurrence of an SSC. Replacement acres would further increase with the occurrence of a CESA-listed species.

Filing Fees

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & Game Code, § 711.4; Pub. Resources Code, § 21089).

Conclusion

We appreciate the opportunity to comment on the Project to assist the City of Los Angeles in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any response that the City has to our comments and to receive notification of any forthcoming hearing date(s) for the Project [CEQA Guidelines; § 15073(e)]. If you have any questions or comments regarding this letter, please contact Andrew Valand, Environmental Scientist, at Andrew.Valand@wildlife.ca.gov or (562) 342-2142.

Sincerely,

DocuSigned by:
Erinn Wilson-Olgin
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Erinn Wilson-Olgin
Environmental Program Manager I
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ec: CDFW
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CEQA Program Coordinator, Sacramento – CEQAcommentletters@wildlife.ca.gov
State Clearinghouse, Sacramento – State.Clearinghouse@opr.ca.gov

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State of California – Natural Resources Agency
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South Coast Region
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CDFW recommends the following language to be incorporated into a future environmental document for the Project.

Biological Resources			
	Mitigation Measure	**Timing**	**Responsible Party**
MM-BIO-1 – Lake and Streambed Alteration Agreement Notification	CDFW has concluded that the Project may result in the alteration of streams. As such, CDFW concurs with the Project's proposal to notify CDFW pursuant under Fish and Game Code, section 1600 *et seq*. The Project applicant (or "entity") must provide notification to CDFW pursuant to Fish and Game Code, section 1600 *et seq*. Based on this notification and other information, CDFW determines whether a Lake and Streambed Alteration (LSA) Agreement with the applicant is required prior to conducting the proposed activities. Please visit CDFW's Lake and Streambed Alteration Program webpage to for information about LSA Notification and online submittal through the Environmental Permit Information Management System (EPIMS) Permitting Portal (CDFW 2020a). LSA Notification shall occur prior to the City's issuance of a grading permit.	Prior to/During Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-2 – Lake and Streambed Alteration Agreement	The LSA Notification shall include a hydrology report to evaluate whether altering streams within the Project's development, grading, and vegetation clearing areas could impair headwater streams where there is hydrologic connectivity. The hydrology report shall also include a scour analysis to demonstrate that stream banks and streambed would not erode as a result of impacts downstream.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-3 – Lake and Streambed	As part of the LSA Notification process, the City shall provide a map showing features potentially subject to CDFW's broad regulatory authority over streams. The City shall also provide a	Prior to construction and related activities	City of Los Angeles, Department of Public Works,

Alteration Agreement	hydrological evaluation of the 200, 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions.		Bureau of Engineering
MM-BIO-4 – Lake and Streambed Alteration Agreement	The City shall mitigate for impacts to streams and riparian habitat by replacing habitat at no less than 5:1 for all temporary and permanent impacts to streams and riparian habitat. This follows the recommendations in Table 5 of the *Significant Ecological Areas (SEA) Ordinance Implementation Guide, Effective January 16, 2020*, which applies to the adjacent open spaces in the Griffith Park SEA. Mitigation lands shall support streams and coast live oak forest of similar vegetation composition, density, coverage, and species richness and abundance.	Prior to construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-5 – Lake and Streambed Alteration Agreement	As part of the LSA Notification process, the City shall identify impacts and potential mitigation sites prior to drafting an LSA Agreement. The City shall acquire mitigation lands immediately adjacent to the Project as dedicated open space for preservation in perpetuity as one contiguous parcel. Mitigation lands shall be located away from any fuel modification zones. If additional acres are not available for purchase that support streams and coast live oak forest, the City shall identify mitigation lands that could expand the undisturbed natural spaces of Griffith Park and enhance wildlife habitat, corridors, and diversity.	Prior to construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-6 – Lake and Streambed Alteration Agreement	Mitigation lands shall be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands pursuant to Assembly Bill 1094 (2012). Assembly Bill 1094 amended Government Code sections 65965-65968. Under Government Code section 65967(c), the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural Prior to construction resources on mitigation lands it approves. An appropriate non-wasting endowment shall be provided for the long-term management of mitigation lands. A mitigation plan shall	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering

	include measures to protect the targeted habitat values in perpetuity from direct and indirect negative impacts. Issues that shall be addressed include, but are not limited to, restrictions on access, proposed land dedications, control of illegal dumping, water pollution, and increased human intrusion. A conservation easement and endowment funds shall be fully acquired, established, transferred, or otherwise executed prior to the City's issuance of a grading permit.		
MM-BIO-7 – Impacts to Oak Woodlands – Habitat Replacement	In order to ensure no net loss of oak trees/oak woodlands, the City shall apply the following replacement ratios: (1) trees less than 5 inches diameter at breast height (DBH) shall be replaced at 2:1; (2) trees between 5 and 12 inches DBH shall be replaced at 3:1; (3) trees between 12 and 24 inches DBH shall be replaced at 5:1; (4) trees greater than 24 inches DBH shall be replaced at 10:1. Oak trees shall be used to recreate functioning oak woodland of similar composition, density, structure, and function to the selected oak woodland that was impacted.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-8 – Impacts to Oak Woodlands – Habitat Replacement	Project mitigation shall restore, at minimum, equivalent acreage of impacted oak woodlands in approximately the same composition and orientation as Project impacts. The mitigation site shall mimic the pre-Project percent basal, canopy, and vegetation cover of oak woodland impacted. Associated understory and early successional native species shall be planted and monitored along with trees to achieve viable habitat and adequately compensate for biological functions lost.	Prior to construction	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-9 – Impacts to Oak Woodlands – Oak Woodland Habitat Mitigation Program	Prior to any Project ground-disturbing activities, the City shall develop and implement an Oak Woodland Mitigation Program with the following components: 1) An inventory of all oak trees removed or encroached upon during project activities, separated by species and DBH; 2) Acres of oak woodlands impacted, and density, coverage, and abundance of understory vegetation species impacted by life form (i.e., grass, forb, shrub, subshrub, vine);	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering

	3) Mitigation ratios applied and total number and/or area of replacement trees and vegetation; 4) Location of restoration areas and a discussion of the adequacy of the location(s) to serve as mitigation (e.g., would support oak trees/oak woodlands; avoid habitat type conversion); 5) The location and assessment of appropriate reference site(s) to inform the appropriate planting rate to recreate the pre-project function, density, percent basal, canopy, and vegetation cover of oak woodland impacted; 6) Scientific [Genus and species (subspecies/variety if applicable)] of all plants being used for restoration; 7) Location(s) of propagule source. Propagules shall be collected or grown from on-site sources or adjacent areas within the same watershed and shall not be purchased from a supplier. Seeds must originate from plants/trees of the same species (i.e., Genus, species, subspecies, and variety) as the species impacted; 8) Species-specific planting methods (i.e., container or bulbs); 9) Planting schedule; 10) Measures to control exotic vegetation and protection from herbivory; 11) Measurable goals and success criteria for establishing self-sustaining populations (e.g., percent survival rate, absolute cover). Measurable success criteria shall be based on present site/habitat conditions and/or functional local native oak woodlands as reference sites; 12) Contingency measures should the success criteria not be met; 13) Long-term monitoring for at least 10 years; 14) Adaptive management techniques, including replacement plants if necessary; and, Annual reporting criteria and requirements.		

MM-BIO-10 – Impacts to Oak Woodlands – Long Term Conservation	If on-site oak woodland mitigation is not feasible, the City shall set aside replacement habitat to be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands. Mitigation lands shall be in the same watershed as the Project site and replace at minimum the acreage of oak woodlands of similar composition as the oak woodlands impacted. An appropriate non-wasting endowment shall be provided for the long-term management of mitigation lands. A conservation easement and endowment funds shall be fully acquired, established, transferred, or otherwise executed prior to implementing Project-related ground-disturbing activities and prior to the City's issuance of grading permits.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-11 – SSC Reptile and Mammal Surveys	Pursuant to the California Code of Regulations, title 14, section 650, the City/qualified biologist must obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities. Please visit CDFW's Scientific Collection Permits webpage for information (CDFW 2020d). An LSA Agreement may provide similar take or possession of species as described in the conditions of the agreement.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-12 – SSC Species Surveys	The City shall retain a qualified biologist(s) with experience surveying for or is familiar with the life history of each of the following species: Southern California legless lizard and San Diego woodrat. The qualified biologist shall conduct focused surveys for SSC and suitable habitat no more than one month from the start of any ground-disturbing activities or vegetation removal where there may be impacts to SSC. In addition, the qualified biologist shall conduct daily biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of SSC and suitable habitat at the detection location shall be mapped and photographed. The qualified biologist shall provide a summary report of SSC surveys to the City prior to	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering

	implementing any Project-related ground-disturbing activities and vegetation removal. Depending on the survey results, a qualified biologist shall develop species-specific mitigation measures for implementation during the Project.		
MM-BIO-13 – SSC Protection / Relocation Plan	Wildlife shall be protected, allowed to move away on its own (non-invasive, passive relocation), or relocated to adjacent appropriate habitat on site or to suitable habitat adjacent to the project area. SSC shall be captured only by a qualified biologist with proper handling permits. The qualified biologist shall prepare a species-specific list (or plan) of proper handling and relocation protocols and a map of suitable and safe relocation areas. A relocation plan shall be submitted to the City prior to implementing any Project-related ground-disturbing activities and vegetation removal.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-14 – SSC Worker Training	The City, in consultation with a qualified biologist, shall prepare a worker environmental awareness training. The qualified biologist shall communicate to workers that upon encounter with an SSC (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.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-15 – SSC Injured or Dead Wildlife	If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area shall stop immediately. The qualified biologist shall be notified and dead or injured wildlife documented. A formal report shall be sent to CDFW and the City within three 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 additional injury or death.	Prior to / during Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering

MM-BIO-16 – Crotch's Bumble Bee Surveys	Within one year prior to grading and/or vegetation removal, a qualified entomologist familiar with the species behavior and life history shall conduct surveys to determine the presence/absence of Crotch's bumble bee. Surveys shall be conducted during flying season when the species is most likely to be detected above ground, between March 1 to September 1 (Thorp et al. 1983). Survey results, including negative findings, shall be submitted to the City prior to implementing Project-related ground-disturbing activities and/or vegetation removal where there may be impacts to Crotch's bumble bee.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-17 – Crotch's Bumble Bee Avoidance Plan	If Crotch's bumble bee is detected, the City, in consultation with a qualified entomologist, shall develop a plan to fully avoid impacts to Crotch's bumble bee. The plan shall include effective, specific, enforceable, and feasible measures. An avoidance plan shall be submitted to the City prior to implementing Project-related ground-disturbing activities and/or vegetation removal where there may be impacts to Crotch's bumble bee.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-18 – Crotch's Bumble Bee Permits	If Crotch's bumble bee is detected and impacts to Crotch's bumble bee cannot be feasibly avoided during Project construction and activities, the City/qualified entomologist shall coordinate with CDFW to obtain appropriate handling permits for incidental take of Crotch's bumble bee and provide appropriate mitigation for impacts to Crotch's bumble bee habitat. CDFW recommends the City mitigate for impacts to Crotch's bumble bee habitat at a ratio comparable to the Project's level of impacts.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-19 – Perimeter Fence Monitoring Plan	The City shall develop protocol for monitoring the perimeter fence for trapped, injured, or dead wildlife. To better understand and prevent avoidable impacts to local wildlife species, it would benefit the City to record the number and type of occurrences, develop responsive actions, and avert future potential injuries or deaths. With these data, the City can better identify problem locations or times of year and adjustments can be made to protocol. More	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering

	frequent monitoring of the fence line to inspect for trapped animals and release any wildlife that may be caught in the perimeter fencing.		
MM-BIO-20 – Security Fencing Options	The City shall consider alternative design options for fencing that may be less likely to be harmful to local wildlife, such as the removal of barbed wire or razor wire along the top.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-21 – Perimeter Fencing Design Materials	Any fencing used during and after the Project shall be constructed with materials that are not harmful to wildlife. Prohibited materials shall include, but are not limited to, spikes, glass, razor, or barbed wire. Use of chain link and steel stake fence shall be avoided or minimized as this type of fencing can injure wildlife or create barriers to wildlife dispersal. All hollow posts and pipes shall be capped to prevent wildlife entrapment and mortality. These structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the Project site shall be plugged with bolts or other plugging materials to avoid this hazard. Fences shall not have any slack that may cause wildlife entanglement.	Prior to / during / after Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
MM-BIO-22 – Visibility of Perimeter Fencing	To avoid collisions or entanglements, the City shall put forth effort to make the perimeter fencing more visible via the addition of a PVC cover, high-visibility wire, flagging, or a top rail.	Prior to / during / after Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
Recommendations			
REC-BIO-1 – Lake and Streambed	CDFW's issuance of an LSA Agreement for a Project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document from the City for the Project. To	Prior to Project construction	City of Los Angeles, Department of Public Works,

Alteration Agreement	minimize additional requirements by CDFW pursuant to Fish and Game Code section 1600 *et seq*. and/or under CEQA, the CEQA document shall fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement. Any LSA Agreement issued for the Project by CDFW may include additional measures protective of streambeds on and downstream of the Project site. The LSA Agreement may include further erosion and pollution control measures. To compensate for any on- and off-site impacts to riparian resources, additional mitigation conditioned in any LSA Agreement may include the following: avoidance of resources, on- and/or off-site habitat creation, enhancement or restoration, and/or protection, and management of mitigation lands in perpetuity.	and related activities	Bureau of Engineering
REC-BIO-2 – National Vegetation Classification System	In 2007, the State Legislature required CDFW to develop and maintain a vegetation mapping standard for the State (Fish & G. Code, § 1940). This standard complies with the National Vegetation Classification System, which utilizes alliance and association-based classification of unique vegetation stands. CDFW utilizes vegetation descriptions found in the Manual of California Vegetation (MCV) (CNPS 2020; Sawyer et al. 2008). To determine the rarity ranking of vegetation communities on the Project site, the MCV alliance/association community names shall be provided as CDFW only tracks rare natural communities using this classification system. This would allow CDFW to appropriately comment on potential impacts to sensitive plants and vegetation communities.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
REC-BIO-3 – Phased Removal of Trees	CDFW recommends a phased approach to the removal of on-site trees within each of the planning areas. Removing dozens of trees in quick succession could be detrimental to on-site and nearby wildlife that is reliant upon that habitat. A phased approach of	Prior to / during Project construction	City of Los Angeles, Department of Public Works,

	removing a portion of trees at a given time allows for wildlife to seek refuge in nearby vegetation without losing the entirety of the habitat at once.	and related activities	Bureau of Engineering
REC-BIO-4 – Replacement Tree Density	CDFW has concerns that the remaining open space on the Zoo property would not be sufficient in area for planting replacement trees at an effective density for successful restoration of woodland habitat. CDFW recommends identifying off-site coast live oak and California black walnut restoration locations, in immediate proximity to the Project site that can sufficiently support adequately spaced replacement trees in the development of a mitigation plan.	Prior to / during Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
REC-BIO-5 – Sensitive Plant Replacement Ratios	MM BIO-1.1.e.iii. states that "off-site restoration of affected native vegetation communities and special-status plant species shall occur at a minimum ratio of 3:1". This would apply to all of the sensitive plant species potentially occurring on the Project site. CDFW recommends applying species-specific and community-specific replacement ratios based on considerations such as plant rarity, local demographics, and location of mitigation. Depending on these characteristics, impacts to a given sensitive plant or community may vary. For example, removal of 10 plants that have a CNPS rarity ranking of 1B.2 may be viewed as being a greater impact than removal of 10 plants ranked 4.2.	Prior to Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
REC-BIO-6 – Translocation / Salvage of Plants and Animal Species	Translocation and transplantation is the process of moving an individual plant or animal from the Project site and permanently moving it to a new location. CDFW generally does not support the use of translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.	Prior to / during Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering

REC-BIO-7 – Nesting Birds	In addition to the currently proposed mitigation measure MM BIO-4 for nesting birds in DEIR, CDFW recommends adding language that the City will halt work upon positive detection of an active nest. Positive detections shall be reported to CDFW prior to any Project-related ground disturbing activities or vegetation removal.	Prior to / during Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering
REC-BIO-8 – Nesting Bird Buffers	Temporary exclusion of Project activities within nesting buffers during nesting season may not constitute effective mitigation for the purposes of offsetting Project impacts associated with loss of breeding and nesting habitat. Effective mitigation for impacts to nesting habitat for birds requires structurally (e.g., ground cover, subshrubs, shrubs, and trees) and species diverse vegetation as a part of habitat restoration. Additional mitigation, separate from impacts to vegetation communities, would be necessary to compensate for the temporal or permanent loss of occupied nesting habitat within the Project site. CDFW recommends the qualified biologist/City consult with CDFW to determine proper mitigation for impacts to occupied habitat. Mitigation would be based on acreage of impact and vegetation composition. Depending on the status of the bird species impacted, replacement of habitat acres shall increase with the occurrence of an SSC. Replacement acres would further increase with the occurrence of a CESA-listed species.	Prior to / during Project construction and related activities	City of Los Angeles, Department of Public Works, Bureau of Engineering