State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Blvd, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

***GAVIN NEWSOM, Governor***
***CHARLTON H. BONHAM, Director***



January 18, 2023
*Sent via e-mail*

Daniel Cardoza
Environmental Specialist
Metropolitan Water District of Southern California
700 N. Alameda Street
Los Angeles, CA 90012

COPPER BASIN DISCHARGE VALVE REPLACEMENT AND ACCESS ROAD IMPROVEMENTS PROJECT (PROJECT)
MITIGATED NEGATIVE DECLARATION (MND)
SCH# 2022120316

Dear Mr. Cardoza:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from the Metropolitan Water District of Southern California for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

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 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 & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (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 fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. 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 & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

**PROJECT DESCRIPTION SUMMARY**

**Proponent:** The Metropolitan Water District of Southern California

**Objective:** The objective of the Project is to conduct repairs to the discharge structure of the Copper Basin Dam, which will involve the following Project components: access road improvements/laydown areas, electrical upgrades, valve house repairs/rehabilitation, and staging. The 1.66-mile dirt access road (10 feet wide) between the outlet structure at Copper Basin Reservoir and the base of Copper Basin Dam will be improved to support

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

construction for the discharge structure repairs. Project activities for the access road repairs include vegetation removal, road grading, paving steep segments, installing a safety guard rail, constructing Arizona crossings at drainage locations, installing v-ditches and riprap outlet structures, and installing vehicle turnouts. Electrical upgrades involve installation of new conduits and components in the valve house, replacement of existing transformer and installation of three new concrete pads 250 feet southwest of the Copper Basin Dam, construction of a 135-foot side road from the access road to the concrete pads/transformer, installation of 250 feet of above-ground electrical conduit from the concrete pads to the dam, and conduit/instrumentation from the two weirs along the catwalk to the valve house. Project activities associated with the valve house include replacing the discharge valve, rehabilitating the slide gate valve, and replacing or rehabilitating appurtenant structures including the dam's catwalk, ladder, and two existing weirs. The Project will be staged from three existing staging areas on the west side of the reservoir. Concrete will be mixed at one of the staging areas. Construction materials, equipment, and workers will be transported by barge on the Copper Basin Reservoir. Fuel for the barge will be stored in the staging areas, and refueling will take place on-site.

**Location:** The Project is located on land owned by Metropolitan Water District of Southern California at Copper Basin Reservoir, approximately 5 miles west of Parker Dam and the California-Arizona border. Land use surrounding the Project site is undeveloped open space. The project is within unincorporated San Bernadino County. GPS coordinates for project area are: 34.277885987807856, -114.22850405850038.

**Timeframe:** Construction is anticipated to take approximately 2 years beginning in 2023. Daily construction activity will occur between 6:00 a.m. and 8:00 p.m.

**COMMENTS AND RECOMMENDATIONS**

CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW offers the comments and recommendations below to assist the Metropolitan Water District of Southern California in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The MND has not adequately identified and disclosed the Project's impacts (i.e., direct, indirect, and cumulative) on biological resources and whether those impacts are less than significant. Moreover, CDFW is concerned that an MND may not appropriate for the Project given the high number of special-status species, including CESA-listed and Fully Protected species, that occur or have high potential to occur on the Project site. CDFW's comments and recommendations on the MND are explained in greater detail below and summarized here.

<u>Existing Environmental Setting</u>

Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that the assessment of the existing environmental setting has not been adequately analyzed in the MND. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND likely provides an incomplete or inaccurate analysis of Project-related environmental impacts and whether those impacts have been mitigated to a level that is less than significant.

The MND bases its analysis of impacts to biological resources on reconnaissance-level surveys conducted on March 29 and 30, 2021; focused surveys for special-status plants conducted on March 15 and 16, 2022; protocol-level surveys for southwestern willow flycatcher (*Empidonax traillii extimus*) and Arizona Bell's vireo (*Vireo bellii arizonae*) conducted in May–July 2022 and April–July 2022, respectively; and visual and acoustic surveys for special-status bats conducted between March and August 2022. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years.

CDFW is concerned that focused surveys for special-status plants did not follow the standard protocol involving multiple visits to the Project area (e.g., in early, mid, and late season) to capture the floristic diversity at a level necessary to determine if special status plants are present (see "Special-Status Plants" below). Furthermore, the MND indicates that suitable habitat was found on the Project site for mountain lion (*Puma concolor*), desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), and bald eagle (*Haliaeetus leucocephalus*); however, no focused, protocol-level surveys were conducted for these species. The MND cites Metropolitan Water District of Southern California's "Standard Practices of Environmental Assessment" (which are not provided for review) throughout the MND for assessing "site conditions at the time of construction" (p. 50) for special-status species. CDFW is concerned that deferring this assessment does not reduce impacts to less than significant. Additional focused surveys should be conducted at the appropriate time of year, using standard protocols, to detect the presence of these special-status and to inform appropriate avoidance, minimization, and mitigation measures (see sections below), prior to adoption of the MND. CDFW recommends that a revised MND include the results of additional focused surveys and analysis of impacts based on those results. The MND also lacks an analysis of artificial nighttime lighting and its impacts on bats, migratory birds, and other wildlife. CDFW recommends that an analysis of the impacts of artificial nighttime lighting on wildlife be included in a revised MND. Absent this information, CDFW cannot conclude that the Project will not have a significant effect on fish and wildlife resources.

Mitigation Measures

The MND reports that the following special-status species were observed during the reconnaissance and protocol-level surveys or were determined to have moderate to high potential to occur in the Project area:

**Plants—**bare-stem larkspur (*Delphinium scaposum*), Cove's cassia (*Senna covesii*), Darlington's blazing star (*Mentzelia puberula*), desert beardtongue (*Penstemon pseudospectabilis* ssp. *pseudospectabilis*), desert germander (*Teucrium glandulosum*), Graham fishhook cactus (*Mammillaria grahamii* var. *grahamii*), holly leaved spurge (*Tetracoccus hallii*), narrow-leaved psorothamnus (*Psorothamnus fremontii* var. *attenuatus*), rough stemmed forget-me-not [*Cryptantha* (*Johnstonella*) *holoptera*], saguaro (*Carnegiea gigantea*), yellow paloverde (*Parkinsonia microphylla*)

**Birds—**American peregrine falcon (*Falco peregrinus anatum*), Arizona Bell's vireo (*Vireo bellii arizonae*), bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), Costa's hummingbird (*Calypte costae*), double-crested cormorant (*Nannopterum auritum*), Gila woodpecker (*Melanerpes uropygialis*), golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), Lucy's warbler (*Leiothlypis lucae*), vermilion flycatcher (*Pyrocephalus rubinus*), willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), Yuma Ridgway's rail (*Rallus obsoletus yumanensis*)

**Reptiles—**Gila monster (*Heloderma suspectum cinctum*), Mojave desert tortoise (*Gopherus agassizii*)

**Mammals—**American badger (*Taxidea taxus*), California leaf-nosed bat (*Macrotus californicus*), cave myotis (*Myotis velifer*), desert bighorn sheep (*Ovis canadensis nelsoni*), desert kit fox (*Vulpes macrotis arsipus*), mountain lion (*Puma concolor*), pallid bat (*Antrozous pallidus*), ringtail (*Bassariscus astutus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), Yuma myotis (*Myotis yumanensis*)

CDFW is concerned about the potential for many special-status species, including CESA-listed species, Fully Protected species, and California Species of Special Concern to occur in the Project area. The MND concludes that generalized pre-construction surveys (mitigation measures BIO-4) and avoidance and minimization (BIO-5) are sufficient to detect and mitigate impacts to special-status species. However, CDFW is concerned that waiting to assess the Project site for the presence of special-status species until the time of construction will not reduce impacts to less than significant, particularly for species including, but not limited to, bald eagle, desert tortoise, and burrowing owl. In addition, mitigation measures BIO-6 to BIO-9 are not sufficient in timing and scope to protect

special-status species. CDFW recommends revising mitigation measures BIO-6 through BIO-9 and including additional species-specific measures as described in the sections below. CDFW is also concerned that depending on the timing of Project construction, protocol-level surveys may need to be repeated for southwestern willow flycatcher and Arizona Bell's vireo to ensure that impacts are reduced to a level less than significant. However, no provision is included in the MND for additional focused surveys for these species to ensure that impacts are less than significant.

**Assessment of Impacts to Biological Resources**

California Endangered Species Act (CESA)

Species protected under CESA have the potential to occur within the Project site including, but not limited to, desert tortoise, mountain lion, willow flycatcher, Gila woodpecker, and Arizona Bell's vireo. CESA prohibits the take (under Fish & G. Code, § 86, "take" means to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill) of any endangered, threatened, or candidate species that results from a proposed project, except as authorized by state law (Fish & G. Code, §§ 2080, 2085). Consequently, if Project construction or any Project-related activity during the life of the proposed Project would result in take of a CESA-listed species, CDFW recommends that the Project applicant seek appropriate take authorization under CESA prior to implementing the proposed Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP), a consistency determination, or other permitting options (Fish and G. Code, §§ 2080.1, 2081, subds. (b), (c)). CDFW encourages early consultation, as significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to obtain a CESA ITP. Proposed avoidance, minimization, and mitigation measures must be sufficient for CDFW to conclude that the Project's impacts are fully mitigated. CESA ITPs are issued to conserve protect, enhance, and restore state-listed CESA species and their habitats. More information on ITPs can be found at: https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits.

Bald Eagle (*Haliaeetus leucocephalus*) and Golden Eagle (*Aquila chrysaetos*)

Consistent with CEQA Guidelines, Section 15380, the status of the bald eagle as an endangered species under the California Endangered Species Act (Fish & G. Code, § 2050 *et seq.*) and the bald eagle and golden eagle as Fully Protected species (Fish & G. Code, § 3511) qualify these species as endangered, rare, or threatened species under CEQA.

Vegetation removal may impact eagles that use large trees for nesting and cover (Zeiner et al. 1990). Additionally, vegetation clearing can cause habitat loss, fragmentation, and create edge effects that permeate far beyond the Project site (Harris 1988, Murcia 1995). Roads can be a source of mortality for raptors, and they have also been shown to decrease reproductive success of eagles (Anthony and Isaacs 1989, Varland et al. 1993, Trombulak and Frissell 2000). Noise from road use, generators, and other equipment may be disruptive to nesting and hunting eagles, and exposure to vehicle noise has been shown to increase stress hormone levels in some raptor species. The level of impact depends on how close the road is to nest site, how much use it gets, and how accustomed any particular breeding pair is to road noise. Artificial light may attract or disorient nesting eagles (Longcore and Rich 2004). It can also suppress the immune system of birds. Therefore, Project impacts on bald eagle and golden eagle would be potentially significant.

The CEQA document acknowledges that recent bald eagle nesting habitat has been identified and that foraging bald eagles have been observed in the Project area. The Biological Technical Report indicates: "There is a high potential that this species could reestablish nesting in or near the proposed Project area and for purposes of this analysis, nesting is assumed present. Bald eagles are regularly observed foraging throughout the region, and one was identified flying over the Copper Basin Reservoir during the 2022 surveys" (p. 25). The MND indicates that golden eagle also has high potential to occur in the Project area.

The MND defers assessment of the Project site for bald eagle and golden eagle until the time of construction with a "Standard Practice Environmental Assessment" and refers to mitigation measures BIO-4 and 5 to address Project impacts to eagles (p. 50). However, CDFW is concerned that the timing and scope of these mitigation measures are insufficient to reduce impacts to a level less than significant. Fully Protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of the bird species for protection of livestock, or if they are a covered species provided for in a Natural Community Conservation Plan. To ensure avoidance of impacts to these Fully Protected species, CDFW recommends that focused breeding surveys be conducted for nesting eagles in the Project area using appropriate protocols: USFWS golden eagle protocol (Pagel et al. 2010; https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83940) and CDFW's Bald Eagle Nesting Territory Survey Form and Instructions (2010; https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83706&inline). CDFW recommends inclusion of the following mitigation measure:

> **BIO-[A]: Bald Eagle and Golden Eagle Breeding Surveys**
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> **Prior to adoption of the CEQA document and prior to Project activities, a qualified biologist shall conduct focused breeding surveys for bald eagle and golden eagle, following appropriate protocols: CDFW's Bald Eagle Nesting Territory Survey Form and Instructions (2010) and USFWS Interim Golden Eagle Inventory and Monitoring Protocols (Pagel et al. 2010). If nesting eagles are detected during the focused surveys, the qualified biologist and Metropolitan Water District of Southern California shall coordinate with CDFW to develop avoidance and minimization measures to be reviewed by CDFW. Project disturbances will not occur within 0.5 mile of the active nest sites during breeding season (December 30 through July 1) or any disturbance if that action is shown to disturb the nesting eagles. The 0.5 mile no disturbance buffer will be maintained throughout the breeding season or until the young have fledged and are no longer dependent on the nest or parental care for survival.**

Burrowing Owl *(Athene cunicularia)*

Burrowing owl is a California Species of Special Concern. Take of individual burrowing owls and their nests is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5, and 3513. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

The MND indicates that burrowing owls have high potential to nest and forage on the Project site due to previous signs of burrowing owl inhabitance detected in the 2021 reconnaissance survey. However, no focused surveys were conducted for this special-status species. The MND defers assessment of the Project site for burrowing owl until the time of construction, citing the "Standard Practice Environmental Assessment" and nesting bird surveys (p. 44). CDFW recommends that burrowing owl surveys be conducted separately from other nesting bird surveys and using the protocols discussed below. CDFW is concerned that deferring assessment until the time of construction may not reduce impacts to less than significant.

Although the MND includes mitigation measures BIO-4 and BIO-5 for all wildlife, the timing and scope are insufficient to protect burrowing owls. CDFW recommends that prior to adoption of the MND, a focused survey for burrowing owl following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version) should be conducted by a qualified biologist. The Staff Report on Burrowing Owl Mitigation specifies that project impact evaluations include the following steps: (1) habitat assessment, (2) surveys, and (3) an impact assessment. The three progressive steps are effective in evaluating whether a project will result in impacts to burrowing owls. CDFW recommends the revised IS/MND include specific avoidance and

minimization measures to ensure that impacts to burrowing owls do not occur. As a result, CDFW recommends adding the following mitigation measure, which includes both focused and pre-activity surveys:

> **BIO-[B]: Burrowing Owl Surveys**
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> **Suitable burrowing owl habitat has been confirmed on the site; therefore, pre-construction focused burrowing owl surveys shall be conducted by a qualified biologist in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version) prior to adoption of the CEQA document. If burrowing owls are detected during the focused surveys, the qualified biologist and Project Applicant shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the "Mitigation Impacts" section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The Permittee shall implement the Burrowing Owl Plan following CDFW review and approval.**
>
> **Pre-construction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (2012 or most recent version). Pre-construction surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and USFWS to conduct an impact assessment to develop avoidance, minimization, and mitigation measures to be approved by CDFW prior to commencing Project activities.**

<u>Nesting Birds</u>

It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.)

CDFW is concerned about impacts to nesting birds from vegetation removal on the Project site and from road improvements and general construction activities (e.g., noise/light disturbance). The MND indicates the Project site has high potential for occurrence of many state- or federally listed and other special-status nesting bird species, including the species listed on p.18-20 of the MND's Biological Technical Report. Although the MND includes a section on nesting bird surveys (p. 44) and general mitigation measures BIO-4 and BIO-5, the timing and scope are insufficient to protect nesting birds on the Project site. CDFW recommends that the revised MND include nesting bird specific avoidance and minimization measures to ensure that potential impacts are mitigated. Project-specific avoidance and minimization measures may include, but are not limited to, Project phasing and timing (avoiding peak breeding season), monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site be avoided **any time birds are nesting onsite.** Pre-construction nesting bird surveys shall be performed within 3 days prior to Project activities to determine the presence and location of nesting birds. CDFW recommends the following mitigation measure be included in a revised MND:

> **BIO-[C]: Nesting Bird Avoidance**
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> **Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and should be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Established buffers should remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.**

Desert Tortoise *(Gopherus agassizii*)

The MND indicates that suitable habitat is present for desert tortoise in the Project area. Desert tortoise was not observed during the reconnaissance-level surveys conducted on March 29 and 30, 2021, and no focused surveys were conducted for desert tortoise. Chapter 4 of the Desert Tortoise (Mojave Population) Field Manual indicates that "surveys should be conducted during the desert tortoise's most active periods (April through May or September through October)" (USFWS 2009, p. 4–8). CDFW is concerned that the timing and scope of the surveys were insufficient to determine the presence of desert tortoise on the Project site.

The MND defers assessment of the Project site for desert tortoise to the time of construction, citing the "Standard Practice Environmental Assessment." CDFW is concerned that deferring assessment until the time of construction may not reduce impacts to less than significant. Although the MND includes general mitigation measures BIO-4 and BIO-5, CDFW is concerned that these measures are not sufficient to protect desert tortoise if it is found on the Project site. CDFW recommends that the following mitigation measure, which includes both focused and pre-construction surveys, be included in a revised MND:

> **BIO-[D]: Desert Tortoise**

**Prior to adoption of the CEQA document, a focused survey for desert tortoise shall be conducted by a qualified biologist, according to protocols in chapter 4 of the Desert Tortoise (Mojave Population) Field Manual (USFWS 2009 or most recent version), during the species' most active periods (April through May or September through October). CDFW recommends working with USFWS and CDFW concurrently to ensure a consistent and adequate approach to planning survey work and that biologists retained to complete desert tortoise protocol-level surveys submit their qualifications to CDFW and USFWS prior to initiation of surveys.**

**No more than 14 calendar days prior to start of Project activities, a qualified biologist shall conduct pre-construction surveys for desert tortoise as described in the USFWS Desert Tortoise (Mojave Population) Field Manual. Pre-construction surveys shall be completed using perpendicular survey routes within the Project area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the qualified biologist shall immediately notify CDFW to determine appropriate avoidance, minimization, and mitigation measures.**

Special-Status Plants

Plant species with California Rare Plant Rank of 2B have the potential to occur in the Project area. California Rare Plant Rank 2B indicates plants that are rare, threatened, or endangered in California but more common elsewhere. Impacts to these species must be analyzed during preparation of environmental documents relating to CEQA because they meet the definition of rare or endangered under CEQA Guidelines §15125 (c) and/or §15380.

The MND indicates that Project activities will involve the removal of vegetation and that direct and indirect impacts could occur to special-status plants. Floristic surveys for special-status plants were performed on March 15 and 16, 2022. Eleven special-status plants were either observed during protocol-level surveys or were determined to have moderate to high potential to occur in the Project area.

CDFW is concerned that the focused surveys for special-status plants did not follow CDFW's standard protocols involving multiple visits to the Project area (e.g., in early, mid, and late season) to capture the floristic diversity at a level necessary to determine if special status plants are present. In addition, the MND indicates that rainfall was lower than average in 2022, which may have affected whether all special-status species were detected. Although the MND includes mitigation measures BIO-1, BIO-2, and BIO-3 for special-status plants, the timing and scope are insufficient to protect special-status plants. CDFW recommends replacing BIO-1, BIO-2, and BIO-3 with the following measure in a revised MND:

**BIO-[E]: Special-Status Plants**

**Prior to adoption of the CEQA document, a thorough floristic-based assessment of special-status plants and natural communities, following CDFW's Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities (CDFW 2018 or most recent version) shall be performed by a qualified biologist. Should any state-listed plant species be present in the Project area, the Project proponent shall obtain an Incidental Take Permit for those species prior to the start of Project activities. Should other special-status plants or natural communities be present in the Project area, a qualified restoration specialist shall assess whether perennial species may be successfully transplanted to an appropriate natural site or whether onsite or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a**

**qualified restoration specialist, the receiver site shall be identified, and transplantation shall occur at the appropriate time of year. Additionally, the qualified restoration specialist shall perform seed collection and dispersal from special-status annual plant species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population.**

Desert Kit Fox (*Vulpes macrotis arsipus*), American Badger (*Taxidea taxus*), and Ringtail (*Bassariscus astutus*)

Desert kit fox is protected as a fur-bearing mammal under Title 14 of the California Code of Regulations (Chap. 5, § 460) and may not be taken at any time. Because desert kit fox has high fidelity to natal dens, it is crucial to adequately assess whether desert kit fox is present on the Project site well in advance of commencing Project activities. If desert kit fox is found onsite during breeding season, it could delay Project activities for the length of the breeding season. American badgers are a California Species of Special Concern. American badgers are nocturnal, and it is necessary to assess whether they are present on the Project site well in advance of commencing Project activities. Consistent with CEQA Guidelines, Section 15380, the status of the ringtail as a Fully Protected species (Fish & G. Code § 4700) qualifies it as an endangered, rare, or threatened species under CEQA. The MND indicates that ringtail has been observed in the Project area and that suitable habitat is present for desert kit fox and American badger. The MND (p. 54-55) states that these species "could occur almost anywhere in and around the proposed Project area" and that "construction activities could result in disturbance to natal dens if performed during the pup-rearing season."

The MND indicates that reconnaissance-level wildlife surveys were last conducted on March 29 and 30, 2021. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period. CDFW recommends that updated focused surveys for desert kit fox, American badger, and ringtail are conducted and findings are included in a revised MND. In addition to the avoidance and minimization measures in mitigation measure BIO-6, CDFW recommends that the Metropolitan Water District of Southern California also indicates in a revised MND the anticipated acres of impact to suitable habitat for each of these species. For unavoidable impacts to these species or their suitable habitat, onsite habitat restoration and/or enhancement, and preservation should be evaluated and discussed in detail in a revised MND.

CDFW recommends that the Metropolitan Water District of Southern California incorporate into a revised MND the following revisions to mitigation measure BIO-6 to avoid and minimize impacts to desert kit fox, American badger, and ringtail (additions are in **bold** and removals in ~~strikethrough~~):

**BIO-6 Conduct Surveys and Avoidance for Ringtail, American Badger, and Desert Kit Fox.** ~~Metropolitan shall conduct pre-construction surveys for ringtail, American badger, and desert kit fox no more than 15 days prior to initiation of construction activities. Surveys shall be conducted in areas that contain habitat for these species and shall include Project disturbance areas and access roads plus a 200-foot buffer surrounding these areas. If dens are detected, each den shall be classified as inactive, potentially active, active non-natal, or active natal. Inactive dens that would be directly impacted by road grading shall be excavated either by hand or mechanized equipment under the direct supervision of the biologist and backfilled to prevent reuse by ringtails, badgers, or kit fox. Potentially and known active dens shall not be disturbed during the whelping/pupping season (February 1 – September 30). A den may be declared "inactive" after three days of monitoring via camera(s) or a tracking medium have shown no ringtail, badger, or kit fox activity.~~

~~Active dens shall be flagged and Project activities within 200 feet shall be avoided. Buffers may be modified by a qualified biologist. If active dens are found within~~

~~Project disturbance areas and avoidance is not possible, Metropolitan shall take action as specified below.~~

~~**Active and potentially active non-natal dens.** Outside the breeding season, any potentially active dens that would be directly impacted by construction activities shall be monitored by a qualified biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den may be excavated and backfilled by hand. If tracks are observed, the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage continued use. After verification that the den is no longer active, the den may be excavated and backfilled by hand.~~

~~**Active natal dens.** Active natal dens or any den active during the breeding season will not be excavated or passively relocated. The pup-rearing season is generally from February 1 through September 30. A 300-foot no-disturbance buffer shall be maintained around all active natal dens. A qualified biologist shall monitor the natal den until they determine that the pups have dispersed. Any disturbance to animals or activities that might disturb denning activities shall be prohibited within the buffer zone. Once the pups have dispersed, methods listed above for non-natal dens may be used to discourage den reuse. After verification that the den is unoccupied, it shall then be excavated by hand and backfilled to ensure that no animals are trapped in the den.~~

**Desert Kit Fox Surveys:**
**No more than 14 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist shall conduct pre-construction surveys to determine if potential desert kit fox burrows/dens are present in the Project area. Pre-construction surveys should include 100-percent visual coverage of the Project area and cannot be combined with other surveys conducted for other species while using the same personnel. If the pre-construction surveys confirm occupied desert kit fox habitat, Project activities shall be immediately halted, and the qualified biologist shall notify CDFW and USFWS to develop avoidance, minimization, and mitigation measures. No disturbance of active dens shall take place when juvenile desert kit fox may be present and dependent on parental care.**

**American Badger Surveys:**
**No more than 30 days prior to the beginning of ground disturbance and/or construction activities, a qualified biologist shall conduct a survey to determine if potential American badger burrows are present in the Project area. If potential burrows are located, they shall be monitored using the best judgement of the qualified biologist. If the burrow is determined to be active, the qualified biologist shall flag and create a 50-foot buffer around the den. If impacts to the den are unavoidable, the qualified biologist will verify there are suitable burrows in avoided habitat within the Project area or outside of the Project area prior to undertaking passive relocation actions. If no suitable burrows are located, artificial burrows shall be created at least 14 days prior to passive relocation. The qualified biologist shall block the entrance of the active burrow with soil, sticks, and debris for 3-5 days to discourage the use of the burrow prior to Project activities. The entrance shall be blocked to an incrementally greater degree over the 3- to 5-day period. After the qualified biologist has determined there are no active burrows, the burrows shall be hand-excavated to prevent re-use. No disturbance of active dens shall take place when juvenile American badgers may be present and dependent on parental care. A qualified biologist shall determine appropriate buffers and maintain connectivity to adjacent habitat should natal burrows be present. Any relocation of American badgers shall take place after consultation and approval with CDFW.**

**Ringtail Surveys:**
**No more than 30 days prior to the beginning of ground disturbance and/or construction activities, a qualified biologist shall conduct a survey to determine if potential ringtail burrows are present in the Project Area. If potential burrows are located, they shall be monitored by the qualified biologist. If the burrow is determined to be active, the qualified biologist shall flag and create a 200-foot buffer around the den**. **If avoidance of occupied ringtail dens is not possible, denning ringtail shall be safely evicted under the direction of a qualified biologist. No disturbance of active dens shall take place when juveniles may be present and dependent on parental care. Any relocation of ringtails shall take place after consultation and approval with CDFW.**

Desert Bighorn Sheep (*Ovis canadensis nelsoni*)

Desert bighorn sheep is a Fully Protected species (Fish & G. Code § 4700), which qualifies it as an endangered, rare, or threatened species under CEQA. The MND indicates that desert bighorn sheep occur in the Project area. The MND's Biological Technical Report notes (p.29) that during the 2021 and 2022 field surveys, a herd of desert bighorn sheep was observed and that desert bighorn sheep are known to frequent the Copper Basin Dam area. Given the 2-year-long anticipated construction period, CDFW is concerned about avoiding disturbance to bighorn sheep during lambing season, such as that from unpredictable loud noise, which may elicit a startle response even at a substantial distance from construction activity. Lambing season is highly variable, depending on patterns of precipitation, and could be from November through May in this area. CDFW is also concerned that activities that could impede desert bighorn sheep access to water sources are avoided.

Desert bighorn sheep are unable to survive long periods of hot, arid conditions without water (Campbell and Remington, 1981). Research on desert bighorn sheep populations suggests that bighorn sheep will modify their water-use activity patterns in response to disturbance from construction activities (Campbell and Remington, 1981; Leslie and Douglas 1980). Sheep were observed changing their water visits to the short period between dawn and the start of the workday, or postponing water use until the end of the workday (Campbell and Remington, 1981). Additionally, sheep shifted from frequent opportunistic water use to brief, infrequent use of water amidst construction activities (Campbell and Remington, 1981). Bighorn sheep have also been observed to change water-sourcing locations due to construction activity when multiple water sources are available. These behavior changes may cause resulting changes in energy expenditure, which could be especially impactful during lambing and amid any other population stressors.

The MND indicates that reconnaissance-level wildlife surveys were last conducted on March 29 and 30, 2021. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period. CDFW recommends that a revised MND include updated, focused surveys for desert bighorn sheep to identify and map potential lambing areas within the Project area and areas where desert bighorn sheep access water. Appropriate avoidance and minimization measures based on focused survey results should also be included in a revised MND to ensure impacts are less than significant.

Mitigation Measure BIO-7 addresses construction monitoring for bighorn sheep. However, CDFW is concerned that the measure is not sufficient in timing and scope to ensure that impacts to desert bighorn sheep are less than significant. CDFW recommends revising BIO-7 as follows (additions are shown in **bold** and deletions are shown with a ~~strikethrough~~):

BIO-7: **Surveys and** Construction Monitoring for **Desert** Bighorn Sheep. ~~If bighorn sheep are detected within 300 feet of Project activities, construction shall cease until the bighorn sheep have moved a safe distance away from Project activities. If bighorn sheep become acclimated to any activity and the biologist determines that Project activities are unlikely to adversely affect the animals, then Project activities can proceed. If the animals appear agitated, the biologist may increase the buffer distance and suspend Project construction.~~ **Prior to adoption of the CEQA**

**document, a qualified biologist will conduct focused surveys to identify potential lambing areas and areas where desert bighorn sheep access water within and adjacent to the Project area. Surveys should be conducted at the time(s) of day when the species is most likely to be detected. Survey results including negative findings should be submitted to CDFW in a report that includes a map of potential lambing areas and water access areas, as well as measures to avoid impacts to lambing areas and desert bighorn sheep in the area.**

**No more than 14 days prior to Project implementation, and once a week during construction activities, a CDFW-approved biologist should conduct a survey for bighorn sheep lambing areas within and adjacent to the Project area. CDFW should be notified within 24 hours upon location of a lambing area. If an active lambing area is located during construction activities, all work should cease. The qualified biologist should coordinate with CDFW to determine appropriate avoidance measures.**

**In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the Project, Metropolitan shall create additional water development(s) after consulting with appropriate agency personnel (CDFW and USFWS) to select location(s) and provide assistance in establishing additional water development(s). Metropolitan shall ensure that any existing water developments, as well as any created, are maintained in good operating condition for the duration of the project. Sound pressure levels from construction shall not exceed a Time Weighted Average (TWA) of 85 dB measured at 50 ft from the noise source.**

Mountain Lion (*Puma concolor*)

Mountain lion is a specially protected mammal in the State (Fish and G. Code, § 4800). In addition, on April 21, 2020, the California Fish and Game Commission accepted a petition to list the Southern California/Central Coast ESU of mountain lion as threatened under CESA (CDFW 2020). As a CESA candidate species, mountain lion is granted full protection of a threatened species under CESA.

The MND indicates that impacts are not expected because this species is “large and highly visible”; however, mountain lions are cryptic and denning sites may not be detected without focused surveys. The MND (p. 56) acknowledges that “the entire Project area is likely used for foraging and denning” by mountain lions. However, no focused surveys to determine presence/absence and potential for natal dens have been conducted. The MND defers this assessment until the time of construction, citing the “Standard Practices of Environmental Assessment” (which are not provided for review) and mitigation measure BIO-8. CDFW is concerned that the timing and scope of these measures is insufficient to reduce impacts to this CESA-listed species to less than significant. Due to potential habitat within the Project area, CDFW recommends that a revised MND include the results of focused surveys to determine presence/absence and potential for natal dens. Caves and other natural cavities, and thickets in brush and timber provide cover and are used for denning. Females may be in estrus at any time of the year, but in California, most births probably occur in spring. Surveys should be conducted when the species is most likely to be detected, during crepuscular periods at dawn and dusk. If potential habitat for natal dens is identified, CDFW recommends fully avoiding potential impacts to mountain lions, especially during spring, to protect vulnerable cubs. CDFW recommends that BIO-8 be revised as follows (additions are shown in **bold** and deletions are shown with a ~~strikethrough~~):

BIO-8 Conduct Surveys for Mountain Lion and Avoid Denning Areas. ~~If construction activities that could disturb potential denning sites (i.e., large trees, cavities, rock piles, pipes, or overhangs) will occur during the breeding season for mountain lions (April through September), a qualified biologist will conduct surveys for potential dens within 200 feet of all areas proposed for disturbance. Any active dens will be avoided~~

~~and an appropriate disturbance-free buffer will be established. Once the young have left the den or the den is no longer active, construction activities can resume.~~ **Prior to adoption of the CEQA document, a CDFW-approved biologist will conduct focused surveys to determine presence/absence of mountain lions and potential for natal dens within the construction footprint and buffer of 2,000 feet (or the limits of the property line) of the Project disturbance boundaries. Surveys should be conducted when the species is most likely to be detected, during crepuscular periods at dawn and dusk. Survey results including negative findings should be submitted to CDFW in a report that includes a map of potential denning sites and measures to avoid impacts to mountain lions that may be in the area as well as dens and cubs, if necessary.**

**Two weeks prior to Project implementation, and once a week during construction activities, a CDFW-approved biologist should conduct a survey for mountain lion natal dens. The survey area should include the construction footprint and the area within 2,000 feet (or the limits of the property line) of the Project disturbance boundaries. CDFW should be notified within 24 hours upon location of a natal den. If an active natal den is located, during construction activities, all work should cease. No work should occur within a 2,000-foot buffer from a natal den. A qualified biologist should notify CDFW to determine the appropriate course of action. CDFW should also be consulted to determine an appropriate setback from the natal den that would not adversely affect the successful rearing of the cubs. No construction activities or human intrusion should occur within the established setback until mountain lion cubs have been successfully reared; the mountain lions have left the area; or as determined in consultation with CDFW. If avoidance is not feasible, the Metropolitan Water District of Southern California shall obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081 subdivision (b) prior to any ground-disturbing activities.**

<u>Special-Status Bat Species</u>

According to the MND's Biological Technical Report (p. 30), six special-status bat species have a high potential to occur in the Project area due to suitable roosting and forging habitat, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Western mastiff bat, (*Eumops perotis californicus*), California leaf-nosed bat (*Macrotus californicus*), cave myotis (*Myotis velifer*), and Yuma myotis (*Myotis yumanensis*). Yuma myotis was detected within the survey area "day roosting in the valve house at the base of the dam" (p. 57). The MND identifies (p. 57) project impacts to bat species displacement of bats during ground-disturbing activities associated with work below the dam, road repair activities, increased noise levels from equipment and human presence, and exposure to dust. The MND also notes that noise, vibration, and human activity could disrupt maternity roosts during the breeding season.

Visual and acoustic surveys for special-status bats were completed between March and August 2022; however, protocols were not specified in the MND. Mitigation measure BIO-9 is included in the MND to address impacts to special-status bats; however, CDFW is concerned that this measure is not sufficient in timing and scope and does not reduce impacts to less than significant. Alternative roosting habitat is frequently unsuccessful, and maternity roosts should not be evicted, excluded, removed, or disturbed. CDFW suggests revising Mitigation Measure BIO-9 as follows (additions are shown in **bold** and deletions are shown with a ~~strikethrough~~):

BIO-9: Survey**s** for **Daytime, Nighttime, Wintering (Hibernacula), and** Maternity ~~Colonies or Hibernaculum for~~ Roosting **Sites for** Bats

Prior to the initiation of Project activities within suitable bat roosting habitat, Metropolitan **Water District of Southern California** shall retain a qualified biologist to conduct **focused** surveys **to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites**. **Two spring surveys (April through June) and two winter surveys (November through January) shall be**

**performed by qualified biologists.** ~~Surveys shall be conducted no more than 15 days prior to the initiation of work near the base of the dam or near other structures that could support bats.~~ **Surveys shall be conducted during favorable weather conditions only**. **Each survey shall consist of one dusk emergence survey (start one hour before sunset and last for three hours), followed by one pre-dawn re-entry survey (start one hour before sunrise and last for two hours), and one daytime visual inspection of all potential roosting habitat on the Project site. Surveys shall be conducted within one 24-hour period. Visual inspections shall focus on the identification of bat sign (i.e., individuals, guano, urine staining, corpses, feeding remains, scratch marks and bats squeaking and chattering). Bat detectors, bat call analysis, and visual observation shall be used during all dusk emergence and pre-dawn re-entry surveys.** ~~Surveys shall also be conducted during the maternity season (March 1 to July 31) within 300 feet of Project activities, where safe access is possibleIf active maternity roosts or hibernacula are found, the structure, tree, or feature occupied by the roost shall be avoided (i.e., not removed), if feasible. If avoidance of the maternity roost is not feasible the biologist will implement the following actions.~~

**If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during preconstruction surveys, for maternity roosts, Project construction will only occur between October 1 and February 28, outside of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost. Maternity roosts shall not be evicted, excluded, removed, or disturbed.**

**A minimum 500-foot no-work buffer shall be provided around hibernacula. The buffer shall not be reduced. Project-related construction and activities shall not occur within 500 feet of or directly under or adjacent to hibernacula. Buffers shall be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed. If avoidance of a hibernacula is not feasible, the Project Biologist will prepare a relocation plan to remove the hibernacula and provide for construction of an alternative bat roost outside of the work area. A bat roost relocation plan shall be submitted for CDFW review prior to construction activities. The qualified biologist will implement the relocation plan and new roost sites shall be in place before the commencement of any ground-disturbing activities that will occur within 500 feet of the hibernacula. New roost sites shall be in place prior to the initiation of Project-related activities to allow enough time for bats to relocate. Removal of roosts will be guided by accepted exclusion and deterrent techniques. The Metropolitan Water District of Southern California shall compensate no less than 2:1 for permanent impacts to roosting habitat.**

~~Maternity Roosts. If a maternity roost will be impacted/removed by the Project, and no alternative maternity roost exists in proximity, substitute roosting habitat for the maternity colony shall be provided in an adjacent area free from Project impacts. Alternative roost sites will be designed to meet the needs of the specific species. Alternative roost sites must be of comparable size and proximal in location to the impacted colony.~~

~~Exclusion of bats prior to eviction from roosts. If non-breeding bat hibernacula are found in trees or structures in the Project area, the individuals shall be safely evicted, under the direction of a qualified biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost. Roosts that need to be removed in situations where the use of one-way doors is not necessary shall first be disturbed by~~

~~various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours.~~

Minimizing Impacts to Other Species

Because of the potential for previously undetected wildlife to occur on the Project site, CDFW recommends inclusion of the following mitigation measure to allow non-listed, non-special-status terrestrial wildlife to leave or be moved out of harm's way:

**MM BIO-[F]: Minimizing Impacts to Other Species**

**To avoid impacts to terrestrial wildlife, a qualified biologist shall be on-site prior to and during all ground- and habitat-disturbing activities to inspect the Project area prior to any Project activities. Individuals of any wildlife species found shall not be harassed and shall be allowed to leave the project area unharmed. If needed, a qualified biologist may guide, handle, or capture an individual non-listed, non-special-status wildlife species to move it to a nearby safe location within nearby refugium, or it shall be allowed to leave the project site of its own volition. Capture methods may include hand, dip net, lizard lasso, snake tongs, and snake hook. If the wildlife species is discovered or is caught in any pits, ditches, or other types of excavations, the qualified biologist shall release it into the most suitable habitat nearby the site of capture. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise by injured or killed, and individuals should be moved only as far a necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with appropriate authorization by CDFW shall move CESA-listed or other special-status species.**

Artificial Light

Artificial nighttime lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian, lunar, and seasonal cycles; and the detection of resources, natural enemies, and navigation (Gatson et al. 2013). Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Photaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004).

The MND indicates (p. 33) that the Project may require temporary nighttime lighting for construction activities "likely limited to the temporary construction trailer and work sites, and only required until 8:00 p.m., as needed" (p. 33). However, impacts to biological resources are not analyzed, and no mitigation measures are proposed. The direct and indirect impacts of artificial nighttime lighting on biological resources including migratory birds that fly at night, bats, and other nocturnal and crepuscular wildlife should be analyzed, and appropriate avoidance and minimization measures should be included in the MND. Because of the potential for artificial nighttime lighting to impact biological resources, CDFW recommends that the MND be revised to include the following mitigation measure:

**BIO-[G]: Artificial Light**

**During Project construction and operation, the Metropolitan Water District of Southern California shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active. The Metropolitan Water District of Southern California shall ensure that lighting for Project activities is shielded, cast downward, and does not spill over onto other**

**properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Use LED lighting with a correlated color temperature of 3,000 Kelvins or less, properly dispose of hazardous waste, and recycle lighting that contains toxic compounds with a qualified recycler.**

Construction Noise

Construction may result in a substantial amount of noise through road use, equipment, and other project-related activities. This may adversely affect wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55 to 60 decibels (Barber et al. 2009). Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats (Sun and Narins 2005, Patricelli and Blickley 2006, Gillam and McCracken 2007, Slabbekoorn and Ripmeester 2008). Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cues (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise (Rabin et al. 2006, Quinn et al. 2017). Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011).

The MND acknowledges (p. 89) that the Project would generate temporary construction noise from the use of heavy equipment such as loaders, backhoes, excavators, and dump trucks. However, the noise level is not quantified, and the MND includes no analysis of the impacts of construction noise on biological resources. Because of the potential for construction noise to negatively impact wildlife, CDFW recommends that a revised MND include both an analysis of impacts of construction noise on wildlife and the following mitigation measure:

**BIO-[H]: Noise**

**Restrict use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning). Do not use generators except for temporary use in emergencies. Power to sites can be provided by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro-hydroelectric systems, or small wind turbine systems. Consider use of noise suppression devices such as mufflers or enclosure for generators. Sounds generated from any means must be below the 55-60 dB range within 50-feet from the source.**

CDFW's Lake and Streambed Alteration Program

Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. Please note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. Upon receipt of a complete notification, CDFW determines if the proposed project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify the Project that would eliminate or reduce harmful impacts to fish and wildlife resources.

CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code § 21065). To facilitate issuance of an LSA Agreement, if necessary, the MND should fully identify the potential impacts to the lake, stream, or riparian resources,

and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. To submit a Lake or Streambed Alteration notification, visit: https://wildlife.ca.gov/Conservation/Environmental-Review/LSA.

The MND indicates that the project will result in both permanent and temporary impacts to streambeds and riparian habitat. This includes impacts to Copper Basin Wash (Drainage 68), and numerous ephemeral features outlined in Table 4 of the MND's Aquatic Resources Delineation Report. Specifically, the Project's access road improvements will include improving slope stability, adding Arizona crossings at drainage locations, installing v-ditches and riprap outlet structures to control run off. These activities all have the potential to substantially impact existing ephemeral drainages and the perennial Copper Basin Wash drainage. Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may adversely impact any river, stream, or lake. CDFW recommends adding the following mitigation measure to a revised MND:

> **MM BIO-[l]: Lake and Stream Alteration (LSA) Program**
>
> **Prior to construction and issuance of any grading permit, the Project Sponsor shall obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, or the Project Sponsor should obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.**

In addition, CDFW recommends revising mitigation measure BIO-10 to reflect that compensatory mitigation measures will be determined with regulatory agency approval (additions are shown in **bold** and deletions are shown with a ~~strikethrough~~):

> BIO-10 Jurisdictional Waters Avoidance and Compensatory Mitigation. Where feasible, jurisdictional areas shall be flagged or fenced for avoidance. Vegetation removal or trimming in jurisdictional areas shall be minimized. Temporary impact areas will be returned to similar conditions that existed prior to ground-disturbing activities. Compensatory mitigation at a **minimum** 1:1 **or other** ratio **determined in coordination with regulatory agencies** for permanent impacts will occur through purchase of mitigation credits from an agency-approved mitigation bank, or through permittee-responsible mitigation, subject to applicable regulatory agency approval. Mitigation for temporary impacts to jurisdictional waters will occur through on-site restoration at a **minimum** 1:1 **or other** ratio **determined in coordination with regulatory agencies**.

**ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

**ENVIRONMENTAL DOCUMENT FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document 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 environmental document filing fee is

required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

**CONCLUSION**

CDFW appreciates the opportunity to comment on the MND to assist the Metropolitan Water District of Southern California in identifying and mitigating Project impacts on biological resources. CDFW concludes that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts on biological resources. CDFW recommends that prior to the adoption of the MND, the Metropolitan Water District of Southern California revise the document to include a more complete assessment of the Project's potential impacts on biological resources, as well as appropriate avoidance, minimization, and mitigation measures. If the revised MND cannot demonstrate that impacts to biological resources are mitigated to a level that is less than significant, CDFW recommends that an Environmental Impact Report be prepared by the Metropolitan Water District of Southern California.

CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts. Questions regarding this letter or further coordination should be directed to Claire Sullivan, Environmental Scientist, at claire.sullivan@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Kim Freeburn
84F92FFEEFD24C8...
Kim Freeburn
Environmental Program Manager

cc: Heather Brashear, Senior Environmental Scientist (Supervisor), CDFW
Heather.Brashear@Wildlife.ca.gov

Office of Planning and Research, State Clearinghouse, Sacramento
State.clearinghouse@opr.ca.gov

**Attachment 1:** MMRP for CDFW-Proposed Mitigation Measures

**REFERENCES**

Anthony, R. G., and F. B. Isaacs. 1989. Characteristics of bald eagle nest sites in Oregon. Journal of Wildlife Management 53:148–159.

Barber, J.R., K.R. Crooks, and K.M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. Trends in Ecology and Evolution 25:180-189.

Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of Bufo americanus, in relation to light and temperature. Ecology 58:98–108.California Department of Fish and Wildlife. (2018, March 20). Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

Campbell, B., Remington, A. (1981). Influence of Construction Activities on Water-Use Patterns of Desert Bighorn Sheep. Wildlife Society Bulletin (1973-2006), 9(1), pp. 63-65. https://www.jstor.org/stable/3782022.

Francis, C. D., and J. R. Barber. 2013. A framework for understanding noise impacts on wildlife: An urgent conservation priority. Frontiers in Ecology and the Environment 11:305–313.

Francis, C. D., C. P. Ortega, and A. Cruz. 2009. Noise pollution changes avian communities and species interactions. Current Biology 19:1415–1419.

Gatson, K. J., Bennie, J., Davies, T., Hopkins, J. 2013. The ecological impacts of nighttime light pollution: a mechanistic appraisal. Biological Reviews.

Gillam, E. H., and G. F. McCracken. 2007. Variability in the echolocation of Tadarida brasiliensis: effects of geography and local acoustic environment. Animal Behaviour 74:277–286.

Harris, L. D. 1988. Edge effects and conservation of biotic diversity. Conservation Biology 2:330–332.

Kight, C. R., and J. P. Swaddle. 2011. How and why environmental noise impacts animals: An integrative, mechanistic review. Ecology Letters 14:1052–1061.

Leslie, D. M. Jr., Douglas, C. L. (1980). Human Disturbance at Water Sources of Desert Bighorn Sheep. Wildlife Society Bulletin (1973-2006), 8(4), pp. 284-290). https://www.jstor.org/stable/3781179.

Longcore, T., and C. Rich. 2004. Ecological light pollution - Review. Frontiers in Ecology and the Environment 2:191–198.
Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. The Condor 108:130–139.
Murcia, C. 1995. Edge effects in fragmented forests: Implications for conservation. Trends in Ecology and Evolution 10:58–62.
Pagel, J. E., D. M. Whittington, and G. T. Allen. 2010. Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations. USFWS.
Patricelli, G., and J. J. L. Blickley. 2006. Avian communication in urban noise: causes and consequences of vocal adjustment. Auk 123:639–649.
Quinn, J. L., M. J. Whittingham, S. J. Butler, W. Cresswell, J. L. Quinn, M. J. Whittingham, S. J. Butler, W. Cresswell, and W. Noise. 2017. Noise, predation risk compensation and vigilance in the chaffinch Fringilla coelebs. Journal of Avian Biology 37:601–608.
Rabin, L. A., R. G. Coss, and D. H. Owings. 2006. The effects of wind turbines on antipredator behavior in California ground squirrels (Spermophilus beecheyi). Biological Conservation 131:410–420.
Slabbekoorn, H., and E. A. P. Ripmeester. 2008. Birdsong and anthropogenic noise: Implications and applications for conservation. Molecular Ecology 17:72–83.
Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats. Current Biology 19:1123–1127. Elsevier Ltd.
Sun, J. W. C., and P. M. Narins. 2005. Anthropogenic sounds differentially affect amphibian call rate. Biological Conservation 121:419–427.
Trombulak, S. C., and C. A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology 14:18–30.
U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (Gopherus agassizii). Region 8, Sacramento, California. https://www.fws.gov/sites/default/files/documents/Desert-Tortoise-Field-Manual.pdf
Varland, D. E., E. E. Klaas, and T. M. Loughin. 1993. Use of habitat and perches, causes of mortality and time until dispersal in post-fledging American kestrels. Journal of Field Ornithology 64:169–178.
Zeiner, D. C., W. F. Laudenslayer, Jr, K. E. Mayer, and M. White. 1990. California's Wildlife Volume I-III. California Department of Fish and Game, editor. Sacramento, CA, USA.

## ATTACHMENT 1: MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

| Biological Resources (BIO) | | |
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| **Mitigation Measure (MM) Description** | **Implementation Schedule** | **Responsible Party** |
| **BIO-[A]: BIO-[A]: Bald Eagle and Golden Eagle Breeding Surveys**<br>Prior to adoption of the CEQA document and prior to Project activities, a qualified biologist shall conduct focused breeding surveys for bald eagle and golden eagle, following appropriate protocols: CDFW's Bald Eagle Nesting Territory Survey Form and Instructions (2010) and USFWS Interim Golden Eagle Inventory and Monitoring Protocols (Pagel et al. 2010). If nesting eagles are detected during the focused surveys, the qualified biologist and Metropolitan Water District of Southern California shall coordinate with CDFW to develop avoidance and minimization measures to be reviewed by CDFW. Project disturbances will not occur within 0.5 mile of the active nest sites during breeding season (December 30 through July 1) or any disturbance if that action is shown to disturb the nesting eagles. The 0.5 mile no disturbance buffer will be maintained throughout the breeding season or until the young have fledged and are no longer dependent on the nest or parental care for survival. | Prior to adoption of the CEQA document and Project activities. | Metropolitan Water District of Southern California |
| **BIO-[B]: Burrowing Owl Surveys**<br>Suitable burrowing owl habitat has been confirmed on the site; therefore, pre-construction focused burrowing owl surveys shall be conducted by a qualified biologist in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version) prior to adoption of the CEQA document. If burrowing owls are detected during the | **Focused surveys:** Prior to adoption of the CEQA document. **Pre-constructions surveys:** no less than 14 days prior | Metropolitan Water District of Southern California |

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| focused surveys, the qualified biologist and Project Applicant shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the "Mitigation Impacts" section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The Permittee shall implement the Burrowing Owl Plan following CDFW review and approval.<br><br>Pre-construction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (2012 or most recent version). Pre-construction surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and USFWS to conduct an impact assessment to develop avoidance, minimization, and mitigation measures to be approved by CDFW prior to commencing Project activities. | to the start of Project-related activities and within 24 hours prior to ground disturbance. | |
| **BIO-[C]: Nesting Bird Avoidance**<br>Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest | No more than 3 days prior to vegetation clearing or ground clearing activities | Metropolitan Water District of Southern California |

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| buffer to be marked on the ground. Nest buffers are species specific and should be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Established buffers should remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance. | | |
| **BIO-[D]: Desert Tortoise**<br>Prior to adoption of the CEQA document, a focused survey for desert tortoise shall be conducted by a qualified biologist, according to protocols in chapter 4 of the Desert Tortoise (Mojave Population) Field Manual (USFWS 2009 or most recent version), during the species' most active periods (April through May or September through October). CDFW recommends working with USFWS and CDFW concurrently to ensure a consistent and adequate approach to planning survey work and that biologists retained to complete desert tortoise protocol-level surveys submit their qualifications to CDFW and USFWS prior to initiation of surveys.<br><br>No more than 14 calendar days prior to start of Project activities, a qualified biologist shall conduct pre-construction surveys for desert tortoise as described in the USFWS Desert Tortoise (Mojave Population) Field Manual. Pre-construction surveys shall be completed using perpendicular survey routes within the Project area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the qualified biologist shall immediately notify CDFW to determine appropriate avoidance, minimization, and mitigation measures. | **Focused surveys:** Prior to adoption of the CEQA document. **Pre-construction surveys:** no more than 14 days prior to start of Project activities | Metropolitan Water District of Southern California |
| **BIO-[E]: Special-Status Plants**<br>Prior to adoption of the CEQA document, a thorough floristic-based assessment of special-status plants and natural communities, following CDFW's Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities (CDFW 2018 or most recent version) shall be performed by a qualified biologist. Should any state-listed plant species be present in the Project area, the Project proponent shall obtain an Incidental Take Permit for those species prior to the start of Project activities. Should other special-status plants or natural communities be present in the Project area, a qualified restoration specialist shall assess whether perennial species may be successfully transplanted to an appropriate natural site or whether onsite or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial | Prior to adoption of the CEQA document. | Metropolitan Water District of Southern California |

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| species is determined by a qualified restoration specialist, the receiver site shall be identified, and transplantation shall occur at the appropriate time of year. Additionally, the qualified restoration specialist shall perform seed collection and dispersal from special-status annual plant species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population. | | |
| **BIO-6 Conduct Surveys and Avoidance for Ringtail, American Badger, and Desert Kit Fox**.<br>Desert Kit Fox Surveys:<br>No more than 14 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist shall conduct pre-construction surveys to determine if potential desert kit fox burrows/dens are present in the Project area. Pre-construction surveys should include 100-percent visual coverage of the Project area and cannot be combined with other surveys conducted for other species while using the same personnel. If the pre-construction surveys confirm occupied desert kit fox habitat, Project activities shall be immediately halted, and the qualified biologist shall notify CDFW and USFWS to develop avoidance, minimization, and mitigation measures. No disturbance of active dens shall take place when juvenile desert kit fox may be present and dependent on parental care.<br><br>American Badger Surveys:<br>No more than 30 days prior to the beginning of ground disturbance and/or construction activities, a qualified biologist shall conduct a survey to determine if potential American badger burrows are present in the Project area. If potential burrows are located, they shall be monitored using the best judgement of the qualified biologist. If the burrow is determined to be active, the qualified biologist shall flag and create a 50-foot buffer around the den. If impacts to the den are unavoidable, the qualified biologist will verify there are suitable burrows in avoided habitat within the Project area or outside of the Project area prior to undertaking passive relocation actions. If no suitable burrows are located, artificial burrows shall be created at least 14 days prior to passive relocation. The qualified biologist shall block the entrance of the active burrow with soil, sticks, and debris for 3-5 days to discourage the use of the burrow prior to Project activities. The entrance shall be blocked to an incrementally greater degree over the 3- to 5-day period. After the qualified biologist has determined there are no active burrows, the burrows shall be hand-excavated to prevent re-use. No disturbance of active dens shall take place when juvenile American badgers may be present and dependent on parental care. A qualified biologist shall determine appropriate buffers and maintain connectivity to adjacent habitat should natal burrows be present. Any relocation of American badgers shall take place after consultation and approval with CDFW. | **Desert kit fox:** no more than 14 days prior to the start of Project activities<br>**American badger and ringtail:** No more than 30 days prior to the beginning of ground disturbance. | Metropolitan Water District of Southern California |

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| Ringtail Surveys:<br>No more than 30 days prior to the beginning of ground disturbance and/or construction activities, a qualified biologist shall conduct a survey to determine if potential ringtail burrows are present in the Project Area. If potential burrows are located, they shall be monitored by the qualified biologist. If the burrow is determined to be active, the qualified biologist shall flag and create a 200-foot buffer around the den. If avoidance of occupied ringtail dens is not possible, denning ringtail shall be safely evicted under the direction of a qualified biologist. No disturbance of active dens shall take place when juveniles may be present and dependent on parental care. Any relocation of ringtails shall take place after consultation and approval with CDFW. | | |
| **BIO-7: Surveys and Construction Monitoring for Desert Bighorn Sheep**<br>Prior to adoption of the CEQA document, a qualified biologist will conduct focused surveys to identify potential lambing areas and areas where desert bighorn sheep access water within and adjacent to the Project area. Surveys should be conducted at the time(s) of day when the species is most likely to be detected. Survey results including negative findings should be submitted to CDFW in a report that includes a map of potential lambing areas and water access areas, as well as measures to avoid impacts to lambing areas and desert bighorn sheep in the area.<br><br>No more than 14 days prior to Project implementation, and once a week during construction activities, a CDFW-approved biologist should conduct a survey for bighorn sheep lambing areas within and adjacent to the Project area. CDFW should be notified within 24 hours upon location of a lambing area. If an active lambing area is located during construction activities, all work should cease. The qualified biologist should coordinate with CDFW to determine appropriate avoidance measures.<br><br>In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the Project, Metropolitan shall create additional water development(s) after consulting with appropriate agency personnel (CDFW and USFWS) to select location(s) and provide assistance in establishing additional water development(s). Metropolitan shall ensure that any existing water developments, as well as any created, are maintained in good operating condition for the duration of the project. Sound pressure levels from construction shall not exceed a Time Weighted Average (TWA) of 85 dB measured at 50 ft from the noise source. | **Focused surveys:** Prior to adoption of the CEQA document. **Pre-construction surveys:** no less than 14 days prior to the start of Project-related activities and once a week during construction activities. | Metropolitan Water District of Southern California |
| **BIO-8 Conduct Surveys for Mountain Lion and Avoid Denning Areas**<br>Prior to adoption of the CEQA document, a CDFW-approved biologist will conduct focused surveys to determine presence/absence of mountain lions and potential for natal dens within the construction footprint and buffer of 2,000 feet (or the limits of the property line) of the Project disturbance boundaries. Surveys should be conducted when the species is | **Focused surveys:** Prior to adoption of the CEQA document. **Pre-construction surveys:** two weeks prior to the start of Project-related activities | |

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| most likely to be detected, during crepuscular periods at dawn and dusk. Survey results including negative findings should be submitted to CDFW in a report that includes a map of potential denning sites and measures to avoid impacts to mountain lions that may be in the area as well as dens and cubs, if necessary.<br><br>Two weeks prior to Project implementation, and once a week during construction activities, a CDFW-approved biologist should conduct a survey for mountain lion natal dens. The survey area should include the construction footprint and the area within 2,000 feet (or the limits of the property line) of the Project disturbance boundaries. CDFW should be notified within 24 hours upon location of a natal den. If an active natal den is located, during construction activities, all work should cease. No work should occur within a 2,000-foot buffer from a natal den. A qualified biologist should notify CDFW to determine the appropriate course of action. CDFW should also be consulted to determine an appropriate setback from the natal den that would not adversely affect the successful rearing of the cubs. No construction activities or human intrusion should occur within the established setback until mountain lion cubs have been successfully reared; the mountain lions have left the area; or as determined in consultation with CDFW. If avoidance is not feasible, the Metropolitan Water District of Southern California shall obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081 subdivision (b) prior to any ground-disturbing activities. | and once a week during construction activities. | |
| **BIO-9: Surveys for Daytime, Nighttime, Wintering (Hibernacula), and Maternity Roosting Sites for Bats**<br>Prior to the initiation of Project activities within suitable bat roosting habitat, Metropolitan Water District of Southern California shall retain a qualified biologist to conduct focused surveys to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. Two spring surveys (April through June) and two winter surveys (November through January) shall be performed by qualified biologists. Surveys shall be conducted during favorable weather conditions only. Each survey shall consist of one dusk emergence survey (start one hour before sunset and last for three hours), followed by one pre-dawn re-entry survey (start one hour before sunrise and last for two hours), and one daytime visual inspection of all potential roosting habitat on the Project site. Surveys shall be conducted within one 24-hour period. Visual inspections shall focus on the identification of bat sign (i.e., individuals, guano, urine staining, corpses, feeding remains, scratch marks and bats squeaking and chattering). Bat detectors, bat call analysis, and visual observation shall be used during all dusk emergence and pre-dawn re-entry surveys.<br><br>If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during preconstruction surveys, for maternity roosts, Project construction will only occur between October 1 and February 28, outside | Prior to the start of Project activities | Metropolitan Water District of Southern California |

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| of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost. Maternity roosts shall not be evicted, excluded, removed, or disturbed.<br><br>A minimum 500-foot no-work buffer shall be provided around hibernacula. The buffer shall not be reduced. Project-related construction and activities shall not occur within 500 feet of or directly under or adjacent to hibernacula. Buffers shall be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed. If avoidance of a hibernacula is not feasible, the Project Biologist will prepare a relocation plan to remove the hibernacula and provide for construction of an alternative bat roost outside of the work area. A bat roost relocation plan shall be submitted for CDFW review prior to construction activities. The qualified biologist will implement the relocation plan and new roost sites shall be in place before the commencement of any ground-disturbing activities that will occur within 500 feet of the hibernacula. New roost sites shall be in place prior to the initiation of Project-related activities to allow enough time for bats to relocate. Removal of roosts will be guided by accepted exclusion and deterrent techniques. The Metropolitan Water District of Southern California shall compensate no less than 2:1 for permanent impacts to roosting habitat. | | |
| **MM BIO-[F]: Minimizing Impacts to Other Species**<br>To avoid impacts to terrestrial wildlife, a qualified biologist shall be on-site prior to and during all ground- and habitat-disturbing activities to inspect the Project area prior to any Project activities. Individuals of any wildlife species found shall not be harassed and shall be allowed to leave the project area unharmed. If needed, a qualified biologist may guide, handle, or capture an individual non-listed, non-special-status wildlife species to move it to a nearby safe location within nearby refugium, or it shall be allowed to leave the project site of its own volition. Capture methods may include hand, dip net, lizard lasso, snake tongs, and snake hook. If the wildlife species is discovered or is caught in any pits, ditches, or other types of excavations, the qualified biologist shall release it into the most suitable habitat nearby the site of capture. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise by injured or killed, and individuals should be moved only as far a necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with appropriate authorization by CDFW shall move CESA-listed or other special-status species. | Prior and during ground- and habitat-disturbing activities. | Metropolitan Water District of Southern California |
| **BIO-[G]: Artificial Light**<br>During Project construction and operation, the Metropolitan Water District of Southern California shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light during the hours of dawn and dusk | During construction | Metropolitan Water District of Southern California |

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| when many wildlife species are most active. The Metropolitan Water District of Southern California shall ensure that lighting for Project activities is shielded, cast downward, and does not spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Use LED lighting with a correlated color temperature of 3,000 Kelvins or less, properly dispose of hazardous waste, and recycle lighting that contains toxic compounds with a qualified recycler. | | |
| **BIO-[H]: Noise**<br>Restrict use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning). Do not use generators except for temporary use in emergencies. Power to sites can be provided by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro-hydroelectric systems, or small wind turbine systems. Consider use of noise suppression devices such as mufflers or enclosure for generators. Sounds generated from any means must be below the 55-60 dB range within 50-feet from the source. | During construction | Metropolitan Water District of Southern California |
| **MM BIO-[I]: Lake and Stream Alteration (LSA) Program**<br>Prior to construction and issuance of any grading permit, the Project Sponsor shall obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, or the Project Sponsor should obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project. | Prior to construction and issuance of any grading permit | Metropolitan Water District of Southern California |
| **BIO-10 Jurisdictional Waters Avoidance and Compensatory Mitigation.**<br>Where feasible, jurisdictional areas shall be flagged or fenced for avoidance. Vegetation removal or trimming in jurisdictional areas shall be minimized. Temporary impact areas will be returned to similar conditions that existed prior to ground-disturbing activities. Compensatory mitigation at a minimum 1:1 or other ratio determined in coordination with regulatory agencies for permanent impacts will occur through purchase of mitigation credits from an agency-approved mitigation bank, or through permittee-responsible mitigation, subject to applicable regulatory agency approval. Mitigation for temporary impacts to jurisdictional waters will occur through on-site restoration at a minimum 1:1 or other ratio determined in coordination with regulatory agencies. | Prior to and during construction | Metropolitan Water District of Southern California |