



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



December 1, 2022

Serge Stanich
California High-Speed Rail Authority
770 L Street Suite 620, MS-1
Sacramento, CA 95814
Serge.Stanich@hsr.ca.gov

Subject: California High-Speed Rail Authority Palmdale to Burbank Project Section, Draft Environmental Impact Report/Environmental Impact Study, SCH #2014071074, California High-Speed Rail Authority

Dear Mr. Stanich:

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Impact Report/Environmental Impact Study (EIR/EIS) and referenced documentation from the California High-Speed Rail Authority (Authority) for the High-Speed Rail Palmdale to Burbank Project Section (Project). CDFW appreciates the opportunity to provide comments regarding aspects of the Project that could affect fish and wildlife resources and be subject to CDFW's regulatory authority under the Fish and Game Code.

CDFW's Role

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

CDFW is also submitting comments as a Responsible Agency under CEQA (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, including 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.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & G. Code, § 1900 *et seq.*), CDFW recommends the Project Applicant obtain appropriate authorization under the Fish and Game Code.

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Project Description and Summary

Objective: The High-Speed Rail (HSR) system would provide a reliable high-speed electrified train system linking the San Francisco Bay Area and Central Valley to Southern California. The Project would construct, maintain, and operate an electrified, high-speed train system connecting Palmdale Transportation Center in the City of Palmdale to Hollywood Burbank Airport (formerly Bob Hope Airport) in the City of Burbank. The approximately 31- to 38-mile Project would be a critical link in Phase 1 of the HSR. The Project would provide predictable and consistent travel times between the Antelope Valley and San Fernando Valley; provide connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and connect the northern and southern portions of the State-wide HSR system.

There are six end-to-end Build Alternatives for the Project: Refined State Route (SR)14, SR14A, E1, E1A, E2, and E2A. Build Alternatives Refined SR14 and SR14A would follow the SR 14 freeway corridor from Antelope Valley to Santa Clarita and would cross the Santa Clara River. Build Alternatives E1, E1A, E2, and E2A make a more direct connection between Palmdale and Burbank by incorporating long tunnels beneath portions of the Angeles National Forest and San Gabriel Mountains National Monument. Build Alternatives E2 and E2A would cross Big Tujunga Wash. Build Alternatives SR14A, E1A, and E2A would avoid Una Lake by traveling approximately 300 feet east of Una Lake. The Authority has identified SR14A Build Alternative as the Preferred Alternative.

The Project includes construction, improvement, upgrade, operation, and maintenance of new and existing facilities and infrastructure necessary to support the HSR system. The Project includes construction of power transmission lines; traction power substations; switching and paralleling stations; adits and intermediate windows to facilitate underground tunnel construction and maintenance; access roads; and drainage facilities (e.g., concrete-lined drainage ditches, culverts, and detention basins). Each of the six Build Alternatives would use six different track profiles: at-grade, at-grade covered, cut and cover, retained cut/trench profile, tunnel, and elevated/aerial structure.

Location: The Project would span from the City of Palmdale near the vicinity of Spruce Court just west of Sierra Highway in the north and to the City of Burbank in the south. The Project extends through a variety of land uses and ecoregions, including urban, rural, and mountainous terrain. Each of the six Build Alternatives would begin and end at the same location. The Refined SR14, SR14A, E1, and E1A Build Alternative alignments would traverse several City of Los Angeles neighborhoods, including Sylmar, Pacoima, and Sun Valley in the San Fernando Valley. In contrast, the E2 and E2A Build Alternative alignments would only traverse Lake View Terrace and Shadow Hills neighborhoods.

Comments and Recommendations

In February 2021, CDFW provided the Authority with comments on an administrative draft EIR/EIS (see Attachment A). CDFW's primary concerns were the Project's impact on unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*, UTS), a CESA-listed, Endangered Species Act (ESA)-listed, and State Fully Protected species, wildlife connectivity, and CESA-listed species including (but not limited to) western Joshua tree (*Yucca brevifolia*) and mountain lion (*Puma concolor*) Southern California/Central Coast Evolutionarily Significant

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Units. CDFW appreciated the opportunity to provide early input on the administrative draft EIR/EIS.

On September 9, 2022, CDFW submitted a request to the Authority to obtain documents referenced in the EIR/EIS in order to thoroughly review and comment on the Project's impact on fish and wildlife (biological) resources. On September 23, 2022, the Authority provided CDFW with those documents¹.

Based on our review of the Project's EIR/EIS and reference documents the Authority provided on September 23, 2022, CDFW offers the comments and recommendations below to assist the Authority in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on biological resources. The Project's impact on UTS and wildlife connectivity continues to be a significant concern for CDFW.

CDFW recommends the measures or revisions below be included in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring, and reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097).

Specific Comments

Comment #1: Impacts on UTS

Issue: The Project continues to have a significant impact on UTS, a State Fully Protected Species, CESA-listed species, and ESA-listed species.

Specific impacts: The Project proposes to construct a bridge across the Santa Clara River (Santa Clara River Crossing²) where UTS occurs. In addition, the Project proposes to install a permanent 100-foot electrical utility corridor across the Santa Clara River at Lang Station Road.

¹ Palmdale to Burbank Project Section (P-B) Draft Biological Assessment (June 2021)

P-B Draft Biological Assessment Appendices (Appendix A through K)

P-B Draft Biological Evaluation (May 2021)

P-B Draft Biological Evaluation Appendices (Appendix A through G)

P-B Biological Resource and Aquatic Resources Technical Report (BARTR) (February 2019)

P-B BARTR Supplement – Noise Effects to Federally Listed Bird Species (August 2022)

Palmdale Boulevard Undercrossing Biological and Aquatic Resources No Effect Memo (March 1, 2021)

P-B SR14A, E1A, and E2A Build Alternative Supplement to BARTR (December 2020)

P-B SR14A, E1A, and E2A Build Alternative Supplement to BARTR Appendices (Appendix A through N)

P-B Wildlife Corridor Assessment (WCA) Report (May 2019)

P-B SR14A, E1A, and E2A Build Alternative Supplement to WCA Report (December 2020)

P-B Spoils Addendum to Hydrology and Water Resources Technical Report (October 2017)

P-B Palmdale Boulevard Hydrology and Water Resources Technical Report (April 2021)

P-B Palmdale Boulevard Supplement to Hydrology and Water Resources Technical Report (March 2021)

P-B Draft Wetlands/Waters Delineation Report (August 2016)

² On January 25, 2017, CDFW attended a site visit with the Authority at the proposed Santa Clara River Crossing.

Prior to the site visit, the Authority previously consulted with CDFW on potential methods to avoid impacts to UTS for construction and operation, including modeling efforts for the 25- and 50-year flood events for Santa Clara River and location of piling and wetted channel conditions. On August 25, 2018, CDFW provided a comment letter to the Authority requesting further evaluation of the Santa Clara River Crossing and information demonstrating that the crossing design would completely avoid impacts on UTS. Although CDFW has worked closely with the Authority on the Santa Clara River Crossing, the Authority has not responded to CDFW's comments, and upon review of the EIR, not all of CDFW's recommendations from the August 25, 2018, comment letter was incorporated (see Attachment B).

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The Project could impact UTS during construction of the Santa Clara River Crossing and utility corridor, as well as other permanent structures. The Project could continue to impact UTS during operation and maintenance of these permanent structures.

Why impacts would occur:

Santa Clara River Crossing. According to the February 2021 Bridges and Elevated Structures Plans, the Santa Clara River Crossing would install bents and columns in the 100-year floodplain of the Santa Clara River³. According to the Project's BIO-MM#85 and page 35 of Section 3.8 Hydrology and Water Resources, "pile installation locations would be restricted spatially to keep permanent structures out of the 25-year flood limit and therefore, no UTS may be affected⁴." CDFW appreciates that the Authority has made attempts to minimize impacts on UTS. However, the proposed Santa Clara River Crossing continues to have a significant impact on UTS.

The Santa Clara River at the proposed bridge is confined by existing, non-engineered gabion-like structures (see Attachment C). It is unclear if those gabion-like structures would need to be removed or modified in order to construct the Santa Clara River Crossing. Removing those structures could widen the wetted perimeter. Therefore, the Project could be installing permanent structures within the 25-year flood limit if the floodplain modeling and Santa Clara River Crossing design plan did not consider the potential need to remove or modify those gabion-like structures.

The Santa Clara River Crossing would be installed in the Santa Clara River where UTS occurs when there is water. Construction of the Santa Clara River Crossing within the 25-year floodplain could impact UTS both directly and as a result of habitat disturbance or degradation. Page 137 in Section 3.7 states, "direct effects on special-status fish species would result from construction activities in suitable habitat that could disturb, injure, or kill individuals if waters are disturbed, degraded, or polluted by sedimentation or construction equipment spills or leaks [...] construction could require work below the ordinary high-water mark of water bodies that support, or have the potential to support, special-status fish species. [...] Pile-driving in channels when surface water is present could lead to behavioral changes, injury, and possible death from vibrations [...]" Lastly, trenching and installation of bridge piers could require dewatering, which could result in UTS stranding and eventual mortality.

After the Santa Clara River Crossing is constructed, the bridge could have permanent impacts on UTS. Bents and columns within the 25-year floodplain could result in erosion, scouring, and buildup of debris. Bent walls can cause scour depressions around and behind the bridge piers; isolate/strand fish in pools; impede water flow and connectivity; and cause soil and debris accumulation. Emergency maintenance is usually needed after storm events to remove debris from bridges with bent walls. The proposed Santa Clara River Crossing could result in perpetual impacts on UTS in the form of physical disturbance and changes to habitat; interruptions of fish passage; increased sedimentation, turbidity, and water temperatures; and oxygen depletion. In addition, maintenance, repair, or replacement of bridge structures after storm events or for the

³ See Appendix 3.8-A Hydrology and Water Resources for the 100-year floodplain modelled by the Authority (page 3.8-A-34, Figure 3.8-A-33).

⁴ See Appendix 2-D: Design Baseline Report for an illustration of the Authority's proposal to avoid the 25-year floodplain (page 11-10, Figure 11-12).

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life of the Santa Clara River Crossing could continue to impact UTS by requiring work in the Santa Clara River. The EIR/EIS has yet to describe how the Santa Clara River Crossing has been designed to completely avoid impacts on UTS during operation and maintenance.

The Authority has proposed programmatic Impact Avoidance and Minimization Features (IAMF) BIO-IAMF#1, 2, 3, and 5 through 11, as well as Biological Mitigation Measure (BIO-MM) 84 through 92 to avoid impacts on UTS. However, CDFW does not believe these measures would avoid impacts on UTS. The EIR/EIS has yet to discuss how these mitigation measures would be effective and whether mitigation would result in additional impacts on UTS. For example, BIO-MM#85 would require K-rails to be installed to prevent access to the wetted channel. K-rails placed close the wetted channel could impact riverbed, bank, and channel. During a sudden storm event, K-rails could cause erosion and scouring as well as buildup of sediment and debris. This could cause temporary impacts to the Santa Clara River and potentially UTS in addition to impacts caused during Project construction. BIO-MM#85 and 92 would prevent activities or personnel from getting within 10 feet of or near the edge of the wetted channel during construction and maintenance. Ten feet may be an insufficient buffer, especially given the Santa Clara River Crossing's proximity to UTS. Finally, BIO-MM#89 would require vibratory or oscillating methods to install bridge piles and piers; however, the EIR/EIS has yet to discuss how those methods would avoid impacts to UTS.

In addition, the mitigation measures listed above do not address the permanent impacts on UTS that could result from installing a permanent structure immediately downstream from UTS.

Lang Station Road. According to Figure 5-2 on page 5-51 in the June 2021 Draft Biological Assessment as referenced in the EIR/EIS, the Project is proposing a permanent 100-foot electrical utility corridor across the Santa Clara River at Lang Station Road. The EIR/EIS does not describe what activities would be required to construct, operate, and maintain the electrical utility corridor and consequently, what impacts there may be on UTS resulting from the electrical utility corridor. In addition, the EIR/EIS does not describe how the electrical utility corridor has been designed to completely avoid impacts on UTS. The electrical utility corridor could impact UTS during construction by causing temporary interruptions of fish passage (e.g., dewatering, installation of structures impeding passage) as well as increased sedimentation and turbidity. In addition, maintenance, repair, or replacement of the electrical utility corridor could continue to impact UTS habitat by requiring work in the Santa Clara River. Finally, the installation of the electrical utility corridor along Lang Station Road would likely result in maintenance of a "dam" as defined in Fish and Game Code that is currently preventing fish passage in violation of Fish and Game Code section 5901. The installation of the electrical corridor would require the re-design of Lang Station Road to comply with Fish and Game Code section 5901.

Arrastre Canyon. CDFW is also concerned about the Project's impact on UTS in watercourses adjacent to Arrastre Canyon Road. Page 137 in Section 3.7 Biological and Aquatic Resources states, "A utility corridor associated with E1-W1/E2-E1 would disturb unarmored three-spine stickleback habitat along Arrastre Canyon Road north of Arrastre Canyon." The EIR/EIS is not clear in disclosing what would be disturbed, what activities would cause those disturbances, how those disturbances would occur, whether those disturbances would be temporary or permanent, and whether the utility corridor would cause temporary or permanent interruptions of fish passage. Construction of the utility corridor could impact UTS through erosion and increased sedimentation, potentially resulting in fish injury or kill and reducing habitat and water

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quality. The EIR/EIS has yet to describe what measures are proposed to mitigate for impacts to UTS habitat at Arrastre Canyon or propose any compensatory mitigation to address habitat loss and disturbance.

Tunneling. According to Appendix 3.1-A Palmdale to Burbank: Footprint Mapbook (August 2022), Map 22 HSR Refined SR14, SR14A Build Alternatives appears to show permanent tunneling impacts on the southside of the Santa Clara River. The EIR/EIS does not discuss where exactly tunneling may occur in or adjacent to the Santa Clara River, what effects tunneling activities may cause, and whether effects would be temporary or permanent. Tunneling would require significant amounts of ground disturbance. Tunneling activities in or adjacent to the Santa Clara River could impact UTS through erosion and increased sedimentation, potentially resulting in fish injury or kill and reducing habitat and water quality.

Evidence impact would be significant: UTS is a State Fully Protected Species, CESA and ESA-listed species. Fully Protected Species are those animals that are rare or faced with possible extinction. Pursuant to Fish and Game Code, 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 the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan.

The Project has yet to be designed to completely avoid impacts on UTS and habitat. In addition, construction, operation, and maintenance of the Santa Clara River Crossing, electrical utility corridor, utility corridor, and tunnel adjacent to the Santa Clara River could result in insufficiently mitigated or unmitigated impacts on UTS and habitat. Furthermore, the Project could be maintaining a dam at Lang Station Road. Per Fish and Game Code section 5901, it is unlawful to construct or maintain in any stream any device or contrivance that prevents, impedes, or tends to prevent or impeded, the passing of fish up and downstream.

The Project has the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species (CEQA Guidelines, §§ 15065, 15380). As a result, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or U.S. Fish and Wildlife Service (USFWS).

Recommended Potentially Feasible Mitigation Measure(s): CDFW cannot authorize take for UTS. CDFW recommend the Authority considers our recommendations and comments in order for the Project to completely avoid impacts on UTS.

Recommendation #1: Consult with CDFW – Prior to finalizing the Project's EIR/EIS, the Authority should consult with CDFW regarding the Project's impact on UTS.

Santa Clara River Crossing. The Authority should reinstate consultation with CDFW and resolve CDFW's concerns regarding the Project's impact on UTS. The Authority should

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provide the below requested information and studies for the bridge to demonstrate complete avoidance of UTS:

- 1) Detailed description of the geomorphic setting and why the bridge design is appropriate for the setting;
- 2) Geomorphic assessment of stream bed and bank stability, including potential influence of downstream mining operations, cultural activities, and the Project's impact on Bee Canyon⁵;
- 3) Potential for debris or log jams at the bridge site;
- 4) Sediment transport and scour analysis (which should account for the removal of the existing non-engineered gabion-like structures);
- 5) Hydraulic studies (including model files, boundary conditions, and other model parameters) showing water surface profiles and average channel velocities for the design flows and the 50- and 100-year flows;
- 6) Detailed description of potential dewatering plans;
- 7) Geotechnical assessments to ensure bridge design is structurally appropriate; and
- 8) Design drawings showing site topography, control points, and dimensions of bridge in plan, elevation, and longitudinal profile and cross-sectional views.

CDFW recommends the Authority continue to collaborate with CDFW to develop a bridge design that would avoid impacts on UTS. CDFW looks forward to reviewing additional information on the Santa Clara River Crossing and providing further review and recommendations to assist the Authority.

Lang Station Road. The Authority should install the electrical utility corridor in a manner that does not impede fish passage to comply with Fish and Game Code section 5901, which may include elevating Lang Station Road. The Authority should consult with CDFW on designs for the proposed electrical utility corridor at Lang Station Road that would allow for fish passage.

Arrastre Canyon. The Authority should consult with CDFW on utility corridor designs such that the utility corridor would avoid impacts on UTS during construction, operation, and maintenance.

Tunneling Impacts. The Authority should consult with CDFW to design the Project so that there would be no tunneling-associated impacts on Santa Clara River/UTS during construction, operation, and maintenance.

Recommendation #2: Revise and Recirculate EIR/EIS – Following consultation with CDFW, the Authority should revise the EIR/EIS to discuss how the Santa Clara River Crossing, electrical utility corridor at Lang Station Road, utility corridor along Arrastre Canyon Road, and tunnels on the south side of Santa Clara River have been designed to completely avoid impacts on UTS. In addition, the EIR/EIS should describe all activities that may occur during the construction, operation, and maintenance phases; how frequently operation and maintenance activities would occur; describe all impacts on UTS that may occur; and provide any measures to avoid impacts on UTS.

⁵ See Appendix 3.1-A Palmdale to Burbank: Footprint Mapbook (August 2022), Map 21 HSR Refined SR14, SR14A Build Alternatives and Map 18 HSR SR14 Build Alternative. The Project proposes permanent drainage basins in Bee Canyon and substantial grading.

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The Authority should recirculate a revised EIR/EIS to provide the public an opportunity to review and comment on the Project's impact on UTS, and how the Santa Clara River Crossing, electrical utility corridor at Lang Station Road, utility corridor along Arrastre Canyon Road, and tunnels have been designed to avoid those impacts [CEQA Guidelines, § 15088.5(a)(1)].

Recommendation #3: Hydroacoustic Impacts on Fish – BIO-MM#89 would require vibratory or oscillating pile driving methods to install piles and piers for the Santa Clara River crossing in order to avoid effects to UTS. The EIR/EIS does not yet provide a clear explanation of how or why vibratory or oscillating pile driving methods would avoid impacts on UTS. Accordingly, CDFW recommends the Authority revise the EIR/EIS to provide a thorough discussion of what methods the Project would use to install piles and piers, how UTS may be affected, and how those methods would avoid effects on UTS. The EIR/EIS should provide the following information:

- 1) A description of the driver type(s) that would be used and methodology;
- 2) A description of sound pressure levels and sound exposure levels;
- 3) An analysis of hydroacoustic impacts to nearby surface waters resulting from each bent and column as shown in the February 2021 Bridges and Elevated Structures Plans;
- 4) A description of injury levels for fish larger and less than two grams;
- 5) A discussion of whether the Project would result in injury and/or behavioral effects on fish;
- 6) A discussion of why driver type(s) would avoid effects to UTS;
- 7) A plan to attenuate sound pressure; and
- 8) A plan to monitor hydroacoustics.

CDFW recommends the Authority provide additional measures to mitigate for the Project's significant impacts on fish not previously identified.

Mitigation Measure #1: Revise BIO-MM#85 – CDFW recommends the Authority prevent access to the wetted channel by using temporary flagging, fencing, and signage. Methods used to prevent access should not cause additional erosion and scouring, allow sediment and debris buildup, and impede fish passage. In addition, CDFW recommends the Authority increase 10 feet to 50 feet in order to protect the wetted channel during Project construction and activities adjacent to UTS.

Mitigation Measure #2: Revise BIO-MM#87 – CDFW recommends the Authority specify what actions would be taken if water quality is being affected by bridge and bank stabilization-related concrete pouring activities. While CDFW appreciates that the Authority has proposed to monitor water quality, impacts may only be mitigated if the Authority has a plan or course of actions in-place to rapidly respond to a decline in water quality caused by the Project. CDFW also recommends the Authority require monitoring reports be submitted monthly or as directed to CDFW. A report should provide any fish mortalities observed due to poor water quality, water quality data, and any actions implemented in response to water quality issues.

Mitigation Measure #3: Revise BIO-MM#88, 89, and 92 – CDFW recommends the Authority increase 10 feet to 50 feet in order to protect the wetted channel during Project construction and activities adjacent to UTS.

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Mitigation Measure #4: CDFW recommends the Authority revise BIO-MM#90 to require that a Construction Groundwater Dewatering Plan be submitted to CDFW for review, and that all CDFW's comments are resolved and addressed prior to finalizing and implementing a Construction Groundwater Dewatering Plan. The Construction Groundwater Dewatering Plan should specify the following at a minimum: 1) a biological monitor should monitor any dewatering effects on the wetted channel, 2) a biological monitor should have authority to halt dewatering operations; 3) what effects would warrant halting dewatering operations, and 4) response actions in the event of negative impacts on the wetted channel, which should include consultation with CDFW, revising the Construction Groundwater Dewatering Plan as appropriate, limiting the extent of excavation dewatering, or suspending construction until such time as regional groundwater conditions are more favorable for the construction to proceed.

Comment #2: Impacts on Mountain Lion and Wildlife Connectivity

Issue: The Project continues to have a significant impact on the Southern California/Central Coast Evolutionary Significant Unit (ESU) of mountain lion (*Puma concolor*, mountain lion), a CESA candidate species, by further constraining wildlife connectivity in the Angeles National Forest. Wildlife connectivity impacts continue to be a significant concern for CDFW considering the length of the Project, the impermeability of the track system, duration of construction activity, and long-term operation.

Specific impacts: The Refined SR14 and SR14A Build Alternatives would introduce a new barrier to mountain lion connectivity adjacent to the Angeles National Forest that did not previously exist. The Project would result in habitat loss and fragmentation and increase impermeability within the San Gabriel-Castaic Linkage (Linkage). Accordingly, the Project has the potential to worsen existing gene flow disruption for mountain lion in southern California; disrupt wildlife movement corridors that are already hindered with existing obstacles; create long stretches of impediments; and further narrow areas of low or compromised permeability, many of which are already threatening the continued viability of wildlife.

Why impacts would occur: The at-grade segments of the Refined SR14 and SR14A Build Alternatives would cause habitat loss and fragmentation within the range of San Gabriel/San Bernardino Mountains (SGSB) mountain lion subpopulation. The SGSB subpopulation exhibits extremely low genetic diversity and effective population size, likely indicating a high risk of extinction (Center for Biological Diversity 2019). The cause of low genetic diversity and population size is habitat fragmentation and patterns of isolation due to roads and development creating movement barriers. The impacts to gene flow for mountain lion is the larger concern when contrasted with individual take. Isolation of subpopulations limits the genetic exchange of populations, prevents recolonization of suitable habitats following local extirpation, and ultimately puts the species at risk of local extirpation or extinction.

The Project is introducing a new barrier that did not previously exist in the vicinity of the Angeles National Forest and within the Linkage. According to Appendix 2-D Design Baseline Report, page 2-17 states that the "project footprint primarily consists of rail alignment, which would include both a northbound and a southbound track in a corridor ranging from 60 feet to several hundred feet wide. Additional right-of-way is included in the footprint to accommodate ancillary features." Appendix 3.1-A Palmdale to Burbank: Footprint Mapbook, Maps 21 and 22, shows a substantial permanent and temporary grading and disturbance footprint on both sides of the

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track. In addition, permanent detention basins would be installed on both sides of the track. Altogether, the track corridor, grading footprint, and detention basins would have a permanent impact footprint of more than 1,000 feet wide. The SR14A Build Alternative would create an almost 1-mile-long, 1,000-foot-wide barrier adjacent to the Angeles National Forest and within the Linkage along Bee Canyon. The Project as a substantial barrier could cut off wildlife from important food, shelter, and breeding areas. Resulting isolation of the SGSB subpopulation would limit the exchange of genetic material and put the subpopulation at risk of local extirpation through genetic and environmental factors.

The Project would have an individual and cumulative impact on mountain lion and wildlife connectivity. However, no mitigation is provided. In addition, mitigation measures proposed by the Project may not be sufficient to reduce the Project's impact to less than significant.

Project's Individual Impact. The EIR/EIS states the Project would have the following impacts:

- Page 3.7-198 in the Section 3.7 Biological and Aquatic Resources – “[...] construction of each of the six Build Alternatives would interfere with established wildlife movement corridors. This represents a significant impact because construction of each of the six Build Alternatives would introduce a constraint to wildlife movement that did not previously exist, interfering with established wildlife corridors.”
- Page 6-5 P-B WCA Report – “Only the Refined SR14 Build Alternative would cross the San Gabriel-Castaic Linkage Design and associated least-cost corridors [...] Approximately 46 percent (6.31 miles) of the San Gabriel-Castaic Linkage Design would be obstructed by nine fenced at-grade segments associated with the Refined SR14 alignment.”
- Page 6-18 P-B WCA Report – “The project (without additional wildlife crossings) would increase movement cost [for mountain lion] across the 6-kilometer-wide movement cost corridor by 1.3 percent for the Refined SR14 Build Alternative. Relative permeability calculated by the moving-window average is reduced by 2 percent for the Refined SR14 Build Alternative [...]”
- Page 2-32 SR14A, E1A, and E2A Build Alternative Supplement to WCA Report – “Approximately 30 percent (6.33 miles) of the San Gabriel-Castaic Linkage Design would be obstructed by five fenced at-grade segments associated with the SR14A alignment. The SR14A Build Alternative would closely parallel SR 14 along this section, which is an existing barrier for wildlife movement.”

Despite acknowledging these significant impacts, no mitigation is proposed for Refined SR14 and SR14A Build Alternatives.

Page 190 Section 3.7 Biological and Aquatic Resources states, “Adding a crossing structure to segments that align with the SR 14 freeway would be impractical as wildlife movement is already constrained in these areas [...] there are no at-grade segments of the Refined SR14 Build Alternative that exceed the recommended threshold lengths that would benefit from wildlife crossings.” Generally, the EIR/EIS concludes that State Route 14 is an existing barrier to connectivity and any mitigation provided by the Project would not benefit wildlife connectivity.

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However, the existence of State Route 14 does not have a bearing on the Project's individual impact on wildlife connectivity. The Project would add a new barrier to wildlife connectivity that does not currently exist. The Project would result in habitat loss and fragmentation adjacent to the Angeles National Forest, obstruct 30 to 46 percent of the Linkage, and increase the movement cost for mountain lion. These impacts are significant. CDFW continues to be concerned that the Authority is not mitigating the Project's significant impact on wildlife connectivity.

BIO-MM#64 would require implementation of wildlife crossings along impermeable portions of the alignment. The Project has proposed to install one wildlife crossing south of the California Aqueduct and one wildlife crossing east of Una Lake to improve the permeability of the SR14A, E1, E1A, E2, and E2A Build Alternatives (Section 3.7 Biological and Aquatic Resources, page 278). CDFW is concerned that BIO-MM#64 as it is currently written has yet to reduce the Project's impact on wildlife connectivity. It should be noted that BIO-MM#64 recommends to the "extent feasible" and "consideration", which are not enforceable requirements. In addition, page 4-19 in the P-B WCA Report states, "It is currently anticipated that the HSR project's construction contract will be a design-build type. Therefore, it is possible that some aspects of this [Wildlife Corridor Assessment] would need to be adjusted or recalibrated to account for updated engineering conditions. However, the recommendations made in this report will be carried forward to the best ability of the Authority." Since the Project is design-build, CDFW is concerned that the Authority may not be committed to constructing wildlife crossings (i.e., committed to mitigation) unless BIO-MM#64 is revised to specifically require crossings in design plans (CEQA Guidelines, § 15126.4).

Project's Cumulative Impact. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [Pub. Resources Code, § 21083(b)]. Table 3.19-6 in Section 3.19 Cumulative Impacts states that the Project's cumulative impact on biological resources is "not cumulatively considerable" and "similar for all Build Alternatives."

The Project, together with past and probable future projects, has a cumulatively considerable effect on mountain lion and wildlife connectivity. State Route 14 is a past project that has resulted in considerable impacts on wildlife connectivity adjacent to the Angeles National Forest. The Project is a future project that would have the same effect on wildlife connectivity. Future projects would further contribute to wildlife movement challenges along State Route 14 corridor. Page 3.19-49 in Section 3.19 Cumulative Impacts further acknowledges cumulative impacts by stating that "Cumulative development within the city of Santa Clarita could increase the amount of rural residential suburbs and transportation infrastructure along the SR14 corridor and Santa Clara River corridor [...] Transportation projects, such as the I-5 HOV/Truck Lanes Project and Sierra Highway Improvements, would widen major roadway and freeway corridors through developed and undeveloped areas."

SR14 or SR14A Build Alternatives would have a cumulatively considerable impact on mountain lion and wildlife movement compared to the other alternatives. SR14 or SR14A contain at-grade portions that would result in habitat loss and fragmentation adjacent to the Angeles National Forest and within the Linkage. The other alternatives would be mostly tunneled under the Angeles National Forest and would not impact the Linkage. SR14 or SR14A would result in at

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least a 1-mile-long, 1,000-foot-wide barrier adjacent to past, present, and probable future projects that have or will have an impact on wildlife movement. The other alternatives would not.

To address the Project's cumulative effects during construction, Section 3.19 Cumulative Impacts, page 3.19-49 lists the following "to reduce the magnitude and severity of impacts associated with construction of the Build Alternative": pre-construction surveys; on-site monitoring; relocation of special-status wildlife; establishing non-disturbance zones; restoring temporary impacts on wildlife movement corridors; and implementing compensatory mitigation. To address cumulative effects during operation, page 3.19-49 states that the Project proposes a worker environmental awareness program training, vegetation and weed management plans, and stormwater management plans. First, temporarily excluding and relocating wildlife from the Project site during construction does not offset impacts on wildlife movement after the Project is completed. Second, restoring temporary impacts on wildlife movement corridors would not address wildlife passage through a barrier that would be left permanently on the landscape. Third, compensatory mitigation proposed only states, "mitigation program consisting of off-site habitat acquisition, restoration, or enhancement; purchase of mitigation credits; or payment into a land bank fund." Compensatory mitigation is general in nature and not specific to wildlife connectivity. It is unclear how compensatory mitigation would offset the Project's cumulative impact on wildlife movement. Finally, during Project operation, it is unclear how a worker awareness program and managing non-native invasive plants would mitigate for the Project's permanent impact on wildlife movement. For these reasons, the Project and mitigation measures proposed do not mitigate for the Project's addition of a barrier to wildlife connectivity.

Evidence impact would be significant: 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. Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9)

As the Project is currently proposed, the Project has yet to mitigate for its permanent, or temporal impacts on genetic connectivity between subpopulations of mountain lion. No mitigation is provided for the Project's fair share of mitigation for impacts on mountain lion and wildlife connectivity. The Project is contributing to habitat loss and fragmentation adjacent to the Angeles National Forest and within the Linkage. The likelihood of this critical Linkage being conserved is being eroded unless the Project mitigates for its fair share of impacts.

The Project has the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species (CEQA Guidelines, §§ 15065, 15380). As a result, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW. In addition, the Project has the continues to interfere substantially with the movement of any native resident or migratory fish or

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wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Recommended Potentially Feasible Mitigation Measure(s): As CDFW has discussed during early consultation and in previous HSR project comment letters, the single biggest potential biological impact arising from construction of the Project is the impact on regional movements of wildlife and connections between habitats. CDFW recommends the Authority consider our recommendations and comments for the Project to adequately mitigate and address impacts on mountain lion and wildlife connectivity.

Recommendation #4: CESA ITP – Appropriate authorization from CDFW under CESA may include an Incidental Take Permit (ITP) or a Consistency Determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to the project and mitigation measures may be required to obtain an ITP. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP for the Project unless the Project's CEQA document addresses all the Project's impact on CESA endangered, threatened, and/or candidate species. The Project's CEQA document should also specify a mitigation monitoring and reporting program that will meet the requirements of an ITP. It is important that the take proposed to be authorized by CDFW's ITP be described in detail in the Project's CEQA document. Also, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for an ITP. However, it is worth noting that mitigation for the Project's impact on a CESA endangered, threatened, and/or candidate species proposed in the Project's CEQA document may not necessarily satisfy mitigation required to obtain an ITP.

Recommendation #5: Gene Flow – The EIR/EIS does not address the Project-related impacts of potentially worsening gene flow disruption for mountain lion, nor does it address how impacts to the population genetic source would impact mountain lion. CDFW recommends Section 3.7 Biological and Aquatic Resources be revised to discuss the Project's impact (and level of significance) on mountain lion from the standpoint of genetic exchange between the Southern California/Central Coast ESU subpopulations. It should be noted that the Wildlife Corridor Assessment Report is not an adequate analysis of the genetic landscape. Habitat modeling does not capture the movement of the SGSB subpopulation of mountain lions who breed and pass on genes to other subpopulations.

Recommendation #6: Cumulative Impacts – The EIR/EIS concludes that the Project's cumulative impact on biological resources is "not cumulatively considerable" and "similar for all Build Alternatives." CDFW does not agree with these conclusions. CDFW recommends that the Authority discuss the Project's cumulative impacts on mountain lion with genetic exchange effects included as part of the discussion. The EIR/EIS should provide data to support the Authority's conclusion regarding the Project's impact, and level of significance, on mountain lion.

Recommendation #7: Revise Build Alternatives – If SR14 or SR14A is the preferred alternative, CDFW recommends the Authority minimize impacts to mountain lion and wildlife movement by modifying the at-grade segment of HSR adjacent to Bee Canyon to a tunnel or at-grade covered segment. If this alternative is not feasible or the Authority declines to adopt it, the Authority should revise the EIR/EIS to provide a meaningful evaluation and analysis as to why the Authority cannot modify the at-grade segment.

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Mitigation Measure #5: Revise BIO-MM#64 – CDFW recommends BIO-MM#64 be revised to “require” (instead of recommending) wildlife crossings be constructed. BIO-MM#64 should require crossings to be constructed south of the California Aqueduct; east of Una Lake; and under State Route 14 to connect both sides of the San Gabriel-Castaic Linkage (see Attachment D). In addition, CDFW recommends that BIO-MM#64 include a design that establishes specific criteria for monitoring the performance of the crossings (viaducts, undercrossing, overcrossings) for routine and ongoing use by mountain lion and its prey.

It is paramount that the final appropriate and effective design features, dimensions, and locations for elevated rail, viaduct, tunnel, and wildlife crossings through the Project site remain as a minimum criterion. Design features, dimensions, and locations should not be design-build options. Design features, dimensions, and locations should not be reduced, altered, or relocated without approval from the wildlife agencies to ensure connectivity of gene flow for mountain lion. Changes to the Project after the CEQA review process, such as addition of more at-grade segments or a decision not to construct wildlife crossings, could result in additional significant impacts not identified and analyzed in the EIR/EIS and may necessitate preparation of a subsequent CEQA document (CEQA Guidelines, § 15162).

Mitigation Measure #6: Revise BIO-MM#77 and 78 – The Project proposes BIO-MM#77 and 78 to mitigate for impacts to mountain lion and wildlife movement through fencing and escape ramps. It should be noted that these measures lack measurable, quantifiable actions or enforceability to avoid, minimize, or mitigate impacts on wildlife movement during Project operation. CDFW recommends BIO-MM#77 and 78 be revised to require the Project Biologist or contractor to obtain CDFW’s review and approval of fencing and wildlife escape plans that ensure avoidance of take of mountain lion. If mountain lion could become entangled in fencing resulting in injury or death, the Authority should obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081 subdivision (b).

Mitigation Measure #7: Revise BIO-MM#96 – In order to sufficiently minimize the Project’s impact on mountain lion and avoid take of a CESA-listed species, CDFW recommends the Authority revise BIO-MM#96 as follows:

“If known or potential mountain lion dens are identified or observed during pre-construction surveys, mountain lion dens will be assumed to have kittens present until the Project Biologist can document that they are not present and/or that the den is not being used. A non-disturbance buffer of at least 1,970 feet will be established around the known or potential den until the Project Biologist can document and confirm that the den is not occupied. If the den is determined to be occupied, ~~the 600-meter non-disturbance buffer will be maintained until the den is confirmed abandoned by the Project Biologist.~~ then project activities in the defined buffer area would need to halt for two (2) months and a re-survey conducted to determine if the female has abandoned the den and relocated the kittens. The Project Biologist and Authority shall immediately consult with CDFW upon detection of an active den. Construction may proceed if the Project Biologist determines that the den is not being used by mountain lions.”

Mitigation Measure #8: If SR14 or SR14A is the preferred alternative, the Authority should consult with CDFW to identify wildlife crossing opportunities and/or opportunities for land acquisition within the San Gabriel-Castaic Linkage. An effective way to reduce impacts to gene

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flow is with Project design features such as increased wildlife crossing opportunities in the critical area within the San Gabriel-Castaic Linkage, which would allow for the SGSB subpopulation to move between large habitat blocks and genetic exchange. Wildlife crossing opportunities should be reviewed and approved by CDFW and incorporated into final design plans. In addition to or instead of wildlife crossings, the Authority should acquire or fully fund the public acquisition of land within the San Gabriel-Castaic Linkage. The Authority should consult and collaborate with CDFW to conserve areas beneficial to the Southern California/Central Coast ESU and SGSB subpopulation that may improve and maintain connectivity.

Mitigation Measure #9: The Authority should protect mitigation lands in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands⁶. The Authority should provide an appropriate endowment for the long-term management of mitigation lands. A conservation easement and endowment funds should be fully acquired, established, transferred, or otherwise executed by the Authority prior to any Project-related ground-disturbing activities.

Mitigation Measure #10: CDFW recommends the Authority prepare and implement a Mountain Lion Crossing Monitoring Plan. CDFW recommends the Authority consult with CDFW during the drafting of the Monitoring Plan and obtain approval of the Monitoring Plan prior to Project implementation. The Monitoring Plan should be contingent with action-based monitoring performance objectives and be adaptive. Goals of the Monitoring Plan should at a minimum: 1) provide data to assist in designing crossings and inform placement for future HSR segments in southern California; 2) conduct long-term population monitoring for use by the mountain lion subpopulations; 3) track progress of use; and 4) evaluate overall effectiveness of the crossings.

Mitigation Measure #11: In the event that mountain lion or dens are detected during surveys per BIO-MM#96, the Authority should prepare Mountain Lion Avoidance Plan. The avoidance plan, at a minimum, should fully avoid nursery sites, dens, and kill sites. The Authority should submit a Mountain Lion Avoidance Plan to CDFW for review. The Authority should resolve CDFW's comments prior to finalizing and implementing a Mountain Lion Avoidance Plan. A Mountain Lion Avoidance plan should be developed before ground-disturbing activities may proceed.

Mitigation Measure #12: If avoidance is not feasible, the Authority should obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081 subdivision (b) prior to any ground-disturbing activities.

Mitigation Measure #13: During construction, the Authority should maintain a ¼ mile buffer from movement corridors such as drainages and riparian areas to minimize impacts to mountain lion. No night work should occur in drainages and riparian areas and areas within the ¼ mile buffer. Within the Santa Clara River, the Authority should maintain a 50-foot buffer as prescribed under Mitigation Measure #3.

⁶ Pursuant to Assembly Bill 1094 (2012). Assembly Bill 1094 amended Government Code sections 65965-65968. Under Government Code section 65967(c), the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

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Comment #3: Impacts on Aquatic Resources

Issue: The Project has an impact on aquatic resources, including streams, creeks, rivers, and seeps.

Specific impacts: The Project would have above- and below-ground impacts on streams. The Project could change drainage or hydrology by filling, channelizing, diverting, redirecting, or dewatering streams. The Project could impact groundwater during tunneling activities, which could reduce or cease flow of streams, creeks, and seeps.

Why impacts would occur: Page 3.7-168 in Section 3.7 Biological and Aquatic Resources states that the Project would have unavoidable impacts on aquatic resources both during surface construction and tunnel construction. Surface construction impacts on aquatic resources would occur from “loss of aquatic resources, and associated functions and values. Construction equipment would be used to modify the landscape and place permanent fill materials (such as culverts, dirt, and/or engineering structures) in aquatic resources. Direct permanent effects on aquatic resources would occur during construction of bridges and elevated structures (e.g., viaducts) over natural waters such as rivers, washes, and wetlands, as well as over artificial ditches and basins.” Tunnel construction impacts would occur from “changes in groundwater levels during tunnel construction [that] could result in indirect impacts on surface waters and associated aquatic resources, with durations of effects lasting days to months, or up to several years after tunnel completion. These impacts could affect state and federally protected aquatic resources.”

BIO-MM#33 and 47 are provided to mitigate for impacts on streams. Both mitigation measures would require restoration of aquatic resources. Aquatic resources under both mitigation measures are limited to Water of the United States and waters under the Porter-Cologne Act. It is unclear if the Authority would restore aquatic resources subject to Fish and Game Code section 1600 *et seq.* Moreover, there is currently no mitigation measure that acknowledges the need for a Lake and Streambed Alteration (LSA) Agreement pursuant to Fish and Game Code section 1602.

BIO-MM#94 would require the Authority to prepare an Adaptive Management Plan for Groundwater Effects on Species and Habitat. BIO-MM#94 would implement the requirements specified under Hydrology and Water Resources (HWR)-MM#4. HWR-MM#4 would require the Authority to develop a Water Resources Adaptive Management and Monitoring Plan (AMMP) to detect adverse changes in surface and subsurface conditions within the Angeles National Forest that could occur during and after construction of the tunnels, including the construction of associated adits. Both mitigation measures could still result in impacts on aquatic resources. For example, the AMMP (see Appendix 3.8-C) sets a 20 percent reduction in overall percent cover and 20 percent reduction in or loss of herbaceous species as a trigger for warranting an adaptive response. Per the current AMMP, there could be up to 20 percent loss of vegetation (compared to baseline) before the Authority takes any adaptive response. By that time, impacts to vegetation and habitat have already occurred (e.g., reduced canopy cover, stress, mortality). Also, given that adaptive response may take time to implement, this would result in additional temporal impacts on aquatic resources.

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In addition, the AMMP would require supplemental water brought to the Project site during tunneling to sustain water sources (e.g., streams, seeps, creeks) if there is a temporary loss of flow or drop in water level. The Supplemental Water Demand Analysis (Appendix 3.8-D) states that potential sources of supplemental water include the Antelope Valley-East Kern Water Agency, Castaic Lake Water Agency, Santa Clarita Water Diversion, and Los Angeles County Waterworks District 37. It should be noted that these are "potential" water sources. There is no documentation to demonstrate that supplemental water would be guaranteed. The State has been and is still in a multi-year drought. In our current state of drought and water restrictions, those entities that the Authority listed may not be able to supply water to the Project as it would take away from the communities serviced by those agencies and water districts. The Authority might not have supplemental water. Therefore, tunneling impacts on streams, seeps, and creeks could go unmitigated per BIO-MM#94 and HWR-MM#4.

Evidence impacts would be significant: The Project may impact streams and associated natural communities. CDFW exercises its regulatory authority as provided by Fish and Game Code section 1600 *et seq.* to conserve fish and wildlife resources which includes rivers, streams, or lakes and associated natural communities. Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake⁷;
- Change the bed, channel, or bank of any river, stream, or lake;
- Use material from any river, stream, or lake; or
- Deposit or dispose of material into any river, stream, or lake.

CDFW requires a LSA Agreement when a project activity may substantially adversely affect fish and wildlife resources.

The Project's impact on aquatic resources has yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial adverse effect on State or federally protected wetlands (including seasonal wetlands, canals, ditches, lacustrine systems, retention and detention basins, and seasonal riverine areas) through direct removal, filling, hydrological interruption, indirect or cumulative effects, or other means.

Recommended Potentially Feasible Mitigation Measure(s):

Recommendation #8: LSA Agreement and CEQA – CDFW's issuance of an LSA Agreement for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document from the lead agency/project applicant for the project. To minimize additional requirements by CDFW pursuant to Fish and Game Code section 1600 *et seq.* and/or under CEQA, The Project's CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of an LSA Agreement. To compensate for any on- and off-site impacts to aquatic and riparian resources, additional mitigation conditioned in any LSA Agreement may include the

⁷ "Any river, stream, or lake" includes those that are dry for periods of time (ephemeral/episodic) as well as those that flow year-round (perennial). 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 water body.

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following: erosion and pollution control measures; avoidance of resources; protective measures for downstream resources; on- and/or off-site habitat creation; enhancement or restoration; and/or protection and management of mitigation lands in perpetuity.

Recommendation #9: Field Evaluations – CDFW continues to believe the magnitude and scope of impacts to streams may be underestimated due to the lack of access to the Project corridor to conduct field surveys. This lack of current, site-specific information necessary to accurately quantify the extent of impacts to streams may affect the accuracy of a LSA Notification pursuant to the LSA Agreement process. We recommend field evaluations be conducted to confirm impacts to streams for the Project once Right-of-Way is secured by the Authority (also see Additional Recommendation #32).

Recommendation #10: Impacts on Streams from Nighttime Construction Lighting – CDFW recommends the EIR/EIS discuss the Project's impacts on streams from the standpoint of any nighttime lighting that may be needed during construction. The EIR/EIS should provide measures to mitigate for any significant effects on streams from construction lighting.

Recommendation #11: Appendix 3.8-C Water Resources Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest – CDFW recommends the Authority make the following revisions:

- 1) In Table 1 Metrics for Potential Effects Indicators, under U.S. Forest Service Standard 45, a reduction in water level is not the only change that could lead to effects on aquatic resources. Therefore, the Authority should also monitor water pressure, flow, velocity, water quality, and wetted perimeter.
- 2) In the same Table, under U.S. Forest Service Standards 47 and 11, the Authority should reduce the trigger level from a current proposal of 20 percent. In addition, CDFW recommends the Authority provide location and species-specific trigger levels. Trigger levels should be set lower where there are Sensitive Natural Communities or special-status species present in order to rapidly detect and respond to tunneling impacts on those resources. Lastly, CDFW recommends the Authority set a trigger not only for canopy cover reduction but also species richness, density, and abundance. Please note that CDFW may recommend a lower trigger level when the Authority convenes a working group with resources agencies and stakeholders to prepare the Water Resources Adaptive Management and Monitoring Plan (see Mitigation Measure #15).

Recommendation #12: Trigger Level – CDFW recommends the EIR/EIS discuss the new trigger level pertaining to U.S. Forest Service Standards 47 and 11 and discuss why trigger levels proposed would adequately detect and respond to impacts on aquatic resources in an efficient and effective manner.

Recommendation #13: Appendix 3.8-D Supplemental Water Demand Analysis for Potential Impacts Within the Angeles National Forest/San Gabriel Mountains National Monument – CDFW recommends the Authority provide documentation that there would be supplemental water available for the Project. Documentation should be provided in the EIR/EIS and the EIR/EIS should be recirculated so the public and agencies can review the feasibility of BIO-MM#94 and HWR-MM#4.

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Mitigation Measure #14: Include Fish and Game Code 1602 – CDFW recommends that the Authority revise BIO-MM#33, 34, and 47 to include aquatic resources subject to Fish and Game Code section 1602.

Mitigation Measure #15: Revise HWR-MM#4 – CDFW recommends that the Authority revise HWR-MM#4 to state that resource agencies and stakeholders should be consulted in preparation of a Water Resources Adaptive Management and Monitoring Plan. The Authority should convene a working group to prepare a Water Resources Adaptive Management and Monitoring Plan. The Authority should resolve all resource agency and stakeholder comments and concerns prior to finalizing the document.

Mitigation Measure #16: The Authority should notify CDFW pursuant to Fish and Game Code section 1602 for construction and activities occurring near or impacting streams and associated natural communities. The Authority should notify CDFW prior to any ground-disturbing activities and vegetation removal, including staging, near streams. The notification to CDFW should provide the following information:

- 1) A stream delineation in accordance with the U.S. Fish and Wildlife Service wetland definition adopted by CDFW⁸ (Cowardin et al. 1979);
- 2) Linear feet and/or acreage of streams and associated natural communities that would be permanently and/or temporarily impacted by the Project. This includes impacts as a result of routine maintenance and fuel modification. Plant community names should be provided based on vegetation association and/or alliance per the [Manual of California Vegetation](#);
- 3) A discussion as to whether impacts on streams within the Project site would impact those streams immediately outside of the Project site where there is hydrologic connectivity. Potential impacts such as changes to drainage pattern, runoff, and sedimentation should be discussed; and,
- 4) A hydrological evaluation of the 100-year storm event to provide information on how water and sediment is conveyed through the Project site. Additionally, the hydrological evaluation should assess a sufficient range of storm events (e.g., 100, 50, 25, 10, 5, and 2-year frequency storm events) to evaluate water and sediment transport under pre-Project and post-Project conditions.

Mitigation Measure #17: If the Project would impact streams and associated natural communities, the Authority should obtain an LSA Agreement prior to any ground-disturbing activities and vegetation removal, including staging, near streams.

⁸ Be advised that some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' Section 404 permit and Regional Water Quality Control Board Section 401 Certification.

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Comment #4: Impacts on Western Joshua Tree

Issue: The Project has an impact on western Joshua tree, a candidate species for listing under CESA.

Specific impacts: The Project could remove western Joshua trees and potentially impact western Joshua tree seedbank.

Why impact would occur: Page 2-9 in the P-B Palmdale Boulevard Supplement to Hydrology and Water Resources Technical Report shows proposed parking areas. Based on review of Google Earth imagery, there is at least one western Joshua tree in Assessor's Parcel Number 3006-006-029. In addition, page 2-27 in the P-B SR14A, E1A, and E2A Build Alternative Supplement to BARTR states, "Joshua tree woodland is mapped in the Palmdale and Lancaster sections of the habitat study area [...] there are no CNDDDB occurrences within 10 miles of the Palmdale to Burbank Project Section. No focused Joshua tree mapping surveys have been conducted for the project section [...] Joshua trees are known to be present within Joshua tree woodland communities and have a high potential to occur within desert grassland and scrub habitats within the Palmdale and Central Subsections of the habitat study area."⁹ The EIR/EIS does not provide a discussion of the Project's impact on western Joshua tree even though the Project could impact the species (also see page 3-9 in the P-B Draft Biological Assessment). Accordingly, the EIR/EIS currently does not provide complete disclosure of the Project's potential impact on western Joshua tree.

The Project may remove western Joshua trees. Impacts could occur from ground disturbance (e.g., excavation, vegetation removal, grading, and earth-moving activities); encroachment, compaction, trampling, or disturbance of the root zone and seedbank by heavy equipment, vehicles, or foot traffic; and increased dust, water, and wind erosion during construction. In addition, any permanent changes to on-site hydrology, such as landscaping and irrigation, increased impervious surfaces, and surface runoff, could potentially result in permanent impacts on western Joshua tree, seedbank, and habitat if the surface runoff from within the Project site flows into off-site areas where western Joshua trees occur. Finally, new perimeter walls or fencing, sidewalks, roads, or other structures could require western Joshua trees to be removed or cut; encroach onto western Joshua trees, root zones, and seedbank; as well as completely or partially shade western Joshua trees. Shade could affect photosynthesis and recruitment of western Joshua tree seedlings.

Evidence impact would be significant: Western Joshua tree is a species designated as candidate for listing as threatened pursuant to CESA (Fish & G. Code, § 2050 *et seq.*). Take of western Joshua tree is defined as any activity that results in the removal of a western Joshua tree, or any part thereof, or impacts the seedbank surrounding one or more western Joshua trees (CDFW 2022a). Western Joshua tree is granted full protection of a threatened species under CESA. Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9). The Project's impact on western Joshua tree has yet to be mitigated. Accordingly, the Project continues to have a substantial adverse

⁹ Please note that data submission to the California Natural Diversity Database (CNDDDB) is voluntary. The lack of occurrence for western Joshua tree does not mean the species does not occur in a given area.

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effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW.

Recommended Potentially Feasible Mitigation Measure(s):

Recommendation #14: Discuss Project Impacts on Western Joshua Tree – Prior to finalizing the EIR/EIS, CDFW recommends the Authority conduct a focused western Joshua tree mapping survey. The Authority should update Section 3.7 Biological and Aquatic Resources to include a discussion of the Project's impact on western Joshua tree (see Recommendation #4 regarding CEQA for issuance of an ITP).

Mitigation Measure #18: The Authority should fully avoid impacts on western Joshua trees. The Authority should implement a minimum 300-foot buffer. Temporary protective fencing and signage should be installed to demarcate the 300-foot buffer. No work or access should occur within the buffer. The temporary fencing should be removed only after all Project construction is complete.

Mitigation Measure #19: If the Authority is unable to avoid impacts on western Joshua tree, the Authority should obtain take authorization from CDFW [pursuant to Fish & Game Code, § 2081(b)]. The Authority should submit a CESA ITP Application to CDFW that provides the following information (at a minimum):

- 1) An analysis of individual western Joshua trees (clonal and non-clonal) and western Joshua tree seedbank that would be impacted both within the Project site and within 300 feet of the Project site;
- 2) An analysis of the acres of natural communities supporting western Joshua trees that would be impacted both within the Project site and within 300 feet of the Project site provided according to alliance and/or association-based natural community names. The [Manual of California Vegetation](#) should be used to inform this mapping and assessment as well as CDFW's [Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Sensitive Natural Communities](#) (CDFW 2018).
- 3) A map of the Project's site plan overlaid on location of western Joshua trees and natural communities; and
- 4) A hydrologic analysis of how water would be transported across the Project site and adjacent areas after Project build-out.

Mitigation Measure #20: The Authority should provide compensatory mitigation for the Project's impact on western Joshua trees at no less than 2:1 or as required in a CESA ITP for western Joshua trees issued by CDFW. Mitigation lands should be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands. An appropriate non-wasting endowment should be provided for the long-term management of mitigation lands. A conservation easement and endowment funds should be fully acquired, established, transferred, or otherwise executed by the Authority prior to any Project-related ground-disturbing activities.

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Comment #5: Crotch Bumble Bee

Issue: The Project may impact Crotch bumble bee (*Bombus crotchii*).

Specific Impacts: The Project may result in temporal or permanent loss of suitable nesting and foraging habitat. Project ground-disturbing activities may cause death or injury of adults, eggs, and larva; burrow collapse; nest abandonment; and reduced nest success.

Why impact would occur: According to page 3.7-146 in Section 3.7 Biological and Aquatic Resources, “Crotch bumble bee would be directly affected by damage to suitable habitat, including grassland and scrub habitats. Direct effects also include the permanent conversion of occupied habitat to project infrastructure or changes to micro/local hydrology. Indirect effects on Crotch bumble bee during construction would include the accumulation of fugitive dust resulting in degradation of habitat for these invertebrates. In addition, changes to local runoff would have negative effects on the health and vigor of plants that make up suitable habitat.”

The Project proposes BIO-MM#39, 47, 50, and 53 to mitigate for the Project’s impact. However, the Project’s impact on Crotch’s bumble bee has yet to be mitigated below a level of significance. BIO-MM#39 pertains to fairy shrimp, not Crotch bumble bee. BIO-MM#47 would provide mitigation for impacts on aquatic resources and has no nexus to Crotch bumble bee. BIO-MM#50 only discusses how to avoid impacts to Crotch bumble bee during off-site mitigation implementation. Finally, BIO-MM#53 does not provide performance criteria or action(s) to meet those performance criteria to compensate for the loss of Crotch bumble bee habitat (CEQA Guidelines, § 15126.4).

Evidence impact would be significant: The California Fish and Game Commission accepted a petition to list Crotch bumble bee as endangered under CESA, determining the listing “may be warranted” and advancing the species to the candidacy stage of the CESA listing process. Crotch bumble bee is granted full protection of a threatened species under CESA. Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9). In addition, Crotch bumble bee has a State ranking of S1/S2. This means that the Crotch bumble bee is considered critically imperiled or imperiled and is extremely rare (often five or fewer populations). Crotch bumble bee is also listed as an invertebrate of conservation priority under the [Terrestrial and Vernal Pool Invertebrates of Conservation Priority](#) (CDFW 2017). The Project’s impact on Crotch bumble bee has yet to be mitigated. Accordingly, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #21: Prior to any ground disturbance, the Authority should conduct site-specific surveys for Crotch bumble bee in accordance with any Crotch bumble bee survey protocol provided by CDFW.

Mitigation Measure #22: Inactive small mammal burrows and thatched/bunch grasses should be avoided whenever feasible. If an inactive burrow may be disturbed by Project activities, it

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should be resurveyed for Crotch bumble bee presence within seven (7) days prior to the scheduled disturbance.

Mitigation Measure #23: If Crotch bumble bee is present, the qualified biologist should identify the location of all nests in or adjacent to the Project site. If nests are identified, 15-meter no disturbance buffer zones should be established around nests to reduce the risk of disturbance or accidental take. If Project activities may result in disturbance or potential take, the qualified biologist, in coordination with CDFW, should expand the buffer zone as necessary to prevent disturbance or take.

Mitigation Measure #24: If “take” or adverse impacts to Crotch bumble bee cannot be avoided either during Project activities or over the life of the Project, Authority should obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081 subdivision (b).

Mitigation Measure #25: Any floral resource associated with Crotch bumble bee that will be removed or damaged by the Project should be replaced at no less than 1:1. Floral resources should be replaced as close to their original location as is feasible. If active Crotch bumble bee nests have been identified and floral resources cannot be replaced within 200 meters of their original location, floral resources should be planted in the most centrally available location relative to identified nests. This location should be no more than 1.5 kilometers from any identified nest. Replaced floral resources may be split into multiple patches to meet distance requirements for multiple nests. These floral resources should be maintained in perpetuity and should be replanted and managed as needed to ensure the habitat is preserved.

Comment #6: Impacts on Monarch Butterfly

Issue: The Project may impact monarch butterfly (*Danaus plexippus*).

Specific Impacts: The Project could impact monarch butterfly by degrading or converting overwintering and/or breeding habitat.

Why impact would occur: According to page 3.7-145 in Section 3.7 Biological and Aquatic Resources, “[...] Monarch butterfly would be directly affected by damage or removal of their host plants. Removal of host plants would reduce the long-term viability of populations of these invertebrates. Direct effects also include the permanent conversion of occupied habitat to project infrastructure or changes to micro/local hydrology. Indirect effects on Monarch butterfly during construction would include the accumulation of fugitive dust on host plants [...] Indirect effects would also include inadvertent introduction of nonnative invasive weeds that would out-compete host plants, reducing the availability of suitable habitat.”

The Project proposes BIO-MM#53, 94, and 95 to mitigate for the Project’s impact. However, the Project’s impact on monarch butterfly has yet to be mitigated below a level of significance. BIO-MM#53 does not provide performance criteria or action(s) to meet those performance criteria to compensate for the loss of monarch butterfly overwintering or breeding (CEQA Guidelines, § 15126.4). BIO-MM#94 does not specify a minimum buffer distance or performance measures if monarch butterflies are observed where there are host plants. Inadequate avoidance could result in impacts to monarch butterfly and host plant. BIO-MM#95 would provide compensatory mitigation at a minimum of 1:1 for impacts to breeding and foraging habitat. The proposed mitigation may be insufficient to offset habitat loss and ensure no net loss of habitat for a

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species that has declined by over 99 percent in the past three decades (Marcum and Darst 2021) (see Additional Recommendation #18). Loss and degradation of monarch breeding habitat is thought to be one of the leading factors in the decline of the western monarch population (Fallon et al. 2015; The Center for Biological Diversity et al. 2014).

Page 2-31 in P-B SR14A, E1A, and E2A Build Alternative Supplement to BARTR states, “The CNDDB identifies several overwintering sites within 10 miles of the Palmdale to Burbank Project Section (mainly in the Los Angeles Basin). No focused presence/absence surveys have been conducted for the project section [...] the monarch butterfly is considered to have a high potential to occur where host plants are present and have a moderate potential to overwinter within the Palmdale to Burbank Subsections of the habitat study area.” While CDFW appreciates that the Project has provided mitigation for host plants in breeding sites, CDFW is concerned that the Project has not provided mitigation for potential impacts to overwintering sites. The most vulnerable element of the monarch annual cycle may be the overwintering stage (Xerces Society 2017). Protection of overwintering habitat is critical to supporting the migratory phenomenon and conserving the species. Overwintering groves have specific microclimatic conditions that support monarch populations (Fisher et al. 2018). Project construction and activities (e.g., demolition, grading, paving, and excavating) occurring near overwintering sites, could alter microclimatic conditions at the overwintering site by increasing levels of human presence, noise, lighting, and dust accumulating on the surface of the leaves of vegetation. Alteration of an overwintering site and surrounding areas could reduce the suitability of an overwintering site for monarchs (Weiss et al. 1991). Accordingly, the Project could potentially significantly impact monarchs by reducing overwintering habitat or altering habitat climatic conditions.

Evidence impact would be significant: The western migratory monarch population that overwinters along the California coast has declined by more than 99 percent from an estimated 4 million butterflies just twenty years ago (CDFW 2021; Marcum and Darst 2021). Habitat loss and fragmentation, including grove senescence, are among the primary threats to the population (Thogmartin et al. 2017). Given the precipitous decline of monarch butterfly, monarch butterfly is currently slated to be listed in 2024 under the Endangered Species Act (CDFW 2021). Monarch butterfly is included on CDFW’s [Terrestrial and Vernal Pool Invertebrates of Conservation Priority](#) list and identified as a Species of Greatest Conservation Need in California’s [State Wildlife Action Plan](#) (CDFW 2017; CDFW 2015). Additionally, Fish and Game Code section 1002 prohibits the take or possession of wildlife for scientific research, education, or propagation purposes without a valid Scientific Collection Permit issued by CDFW. This applies to handling monarch butterfly, removing them from the wild, or otherwise taking them for scientific or propagation purposes, including captive rearing. Fish and Game Code section 1021 directs CDFW to take feasible actions to conserve monarch butterfly and the habitats they depend upon for successful migration. Lastly, Fish and Game Code section 1374 directs the Monarch Butterfly and Pollinator Rescue Program, administered by the Wildlife Conservation Board, to recover and sustain populations of monarch butterfly.

Monarch butterfly meets the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380). The reduction in the number of monarch butterfly, either directly or indirectly through habitat loss, would constitute a significant impact absent appropriate mitigation. The Project’s impact on monarch butterfly has yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial adverse direct and cumulative effect, either directly or through habitat modifications, on any species identified as a candidate,

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sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and/or USFWS.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #26: Revise BIO-MM#94 – The Authority should revise BIO-MM#94 to state that the Authority should contact CDFW and USFWS when Project Biologists observe monarchs in hostplant habitat. In addition, BIO-MM#94 should specify a minimum 50-foot avoidance buffer from milkweed where monarch butterflies are present. The Authority should provide specific performance standards and action(s) to achieve those performance standards to avoid all impacts to monarch butterfly host plant (CEQA Guidelines, § 15126.4).

Mitigation Measure #27: Revise BIO-MM#95 – The Authority should revise BIO-MM#95 to provide no less than 2:1 compensatory mitigation for occupied breeding and foraging habitat. Instead of mitigating through BIO-MM#53, which is not specific to monarch butterfly, the Authority should provide details, performance criteria, and action(s) to achieve those performance criteria for providing compensatory mitigation for monarch habitat under BIO-MM#95.

Mitigation Measure #28: Monarch Overwintering Habitat Assessment – The Authority should retain a qualified biologist to conduct a site-specific overwintering habitat assessment prior to starting ground-disturbing activities. The qualified biologist should assess overwintering habitat following the [Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat](#) (Xerces Society 2017) or other protocols with prior approval by USFWS and CDFW. A summary report should be submitted to USFWS and CDFW prior to ground disturbance.

Mitigation Measure #29: Monarch Overwintering Habitat Avoidance – A qualified biologist should identify primary roosting trees and other structural components or flora integral to maintaining microclimate conditions at overwintering habitat. These plants should be marked prior to starting ground-disturbing activities. Overwintering habitat should be avoided for the duration of the Project. A qualified biologist should assess overwintering habitat and remark/delineate overwintering habitat as needed for the duration of the Project following the [Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat](#) (Xerces Society 2017).

Mitigation Measure #30: Overwintering Monarch Survey – Prior to starting Project ground-disturbing activities and vegetation removal during the overwintering period of September 15 through March 15¹⁰, a qualified biologist should conduct multiple surveys for overwintering monarchs where overwintering habitat has been identified. Monitoring should be done as frequently as possible during the overwintering season to capture changing distributions through the season and in response to storm events.

Mitigation Measure #31: Monarch Impact Avoidance – If overwintering monarchs are present, the Authority should avoid all Project construction and activities within 100 feet of the overwintering monarchs. The Authority should immediately consult with CDFW and USFWS to determine if additional measures may be required including increasing avoidance buffers.

¹⁰ The overwintering period is the estimated timeframe when monarchs are likely present. The overwintering period could vary by location and should be determined in coordination with a qualified biologist.

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Project construction and activities may only start after all overwintering monarchs have departed the overwintering site as determined by a qualified biologist.

Mitigation Measure #32: Overwintering Habitat Preservation – The Authority should preserve overwintering habitat. If the Authority must remove or disturb overwintering habitat and other structural components or flora integral to maintaining microclimate conditions, the Authority should immediately coordinate with CDFW and USFWS prior to starting any activities that may impact overwintering habitat. The Authority should provide no less than 2:1 compensatory mitigation to offset impacts on overwintering habitat.

Mitigation Measure #33: Overwintering Habitat Management – During Project construction, operation, and maintenance, the Authority should avoid or minimize the cutting or trimming of trees and vegetation within core overwintering habitat except for specific grove management purposes, and/or human health and safety purposes. Any management activities in overwintering habitat should be conducted between March 16 and September 14¹¹ in coordination with a qualified biologist. CDFW recommends the Authority consider overwintering habitat management recommendation provided by the USFWS in [Western Monarch Butterfly Conservation Recommendations](#) (USFWS 2021).

Mitigation Measure #34: Avoid Pesticide Use – During Project construction, operation, and maintenance, the Authority should avoid or minimize the use of pesticides within one mile of overwintering groves, particularly when monarchs may be present. Non-chemical weed control techniques should be used when possible. If pesticides are used, applications should be conducted from March 16 through September 14, when possible. Whenever possible, targeted application herbicide methods should be used, large-scale broadcast applications should be avoided, and precautions should be taken to limit off-site movement of herbicides (e.g., drift from wind and discharge from surface water flows). Neonicotinoids or other systemic insecticides, including coated seeds, should not be used any time of the year in monarch habitat due to their ecosystem persistence, systemic nature, and toxicity. Soil fumigants should not be used.

Comment #7: Impacts on Special-Status Species of Amphibians

Issue: The Project may continue to have a significant impact on special-status amphibian species including California red-legged frog (*Rana draytonii*, ESA-listed), arroyo toad (*Anaxyrus californicus*, ESA-listed), southern mountain yellow-legged frog (*Rana muscosa*, ESA- and CESA-listed), and coast range newt (*Taricha tarosa*) and western spadefoot toad (*Spea hammondi*), both California Species of Special Concern (SSC) (collectively, amphibian species).

Specific Impacts: The Project may result in temporal or permanent loss of breeding and upland habitat for special-status amphibian species. Project construction could result in injury or mortality of amphibians. Frogs, toads, and newts could be trampled or crushed by equipment, vehicles, and foot traffic.

Why impact would occur: The Project would impact special-status amphibian species. Page 3.7-116 states, “Direct effects on special-status amphibian species would result from

¹¹ Outside of estimated timeframe when monarchs are likely present.

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construction activities in suitable upland or aquatic habitat that could kill, injure, or harass adults, eggs or egg masses, and larvae. Entrapment in open, excavated areas could also kill, injure, or harass special-status amphibians. Construction would also temporarily destroy, degrade, fill, or pollute aquatic breeding or upland nesting habitats and cause temporary loss of burrows or other upland refugia. Direct effects also include the permanent conversion or fragmentation of occupied aquatic and upland habitat resulting from installation of project infrastructure.”

The Project proposes mitigation for impacts to special-status amphibian species including BIO-MM#7, 8, 32, 33, 46, 47, and 53. However, the Project’s impact has yet to be mitigated below a level of significance. BIO-MM#7 would require pre-construction surveys prior to any ground disturbance. There is no description of how frequently surveys would be performed or what methods would be used to increase likelihood of detection. Amphibians are generally cryptic species that seek refuge under structures or burrows. Surveys for amphibians generally need to be time-of-day and time-of-year specific to increase probability of detection. Multiple surveys would need to be conducted to detect frogs, toads, and newts if any are present. Surveys conducted during the dry season, or a dry year could miss detections because amphibians are largely estivating below-ground. Ground-disturbing activities proceeding after a false-negative conclusion could result in injury or mortality of amphibians. BIO-MM#8 would require amphibians to be relocated; however, BIO-MM#8 does not specify where amphibians would be relocated safely out of harm’s way. Also, relocation of CESA-listed candidate, threatened, or endangered species is considered take in the form of capture or the attempt to capture the species as defined under Fish and Game Code section 86. The EIR/EIS does not specify whether take authorization would be obtained to relocate species. The remaining five mitigation measures would require restoration of riparian or aquatic resources because riparian and aquatic resources “often serve as breeding and nesting habitat for special-status amphibian species.” All five mitigation measures are general and not specific to replacing habitat appropriate for each impacted special-status amphibian species. Amphibian species require both breeding and upland habitat for estivation and foraging. Currently, none of the mitigation measures disclose whether the Authority would create both breeding and upland habitat that would support self-sustaining populations of impacted amphibian species.

The mitigation measures proposed currently may not satisfy the CEQA standards for deferred mitigation (CEQA Guidelines, § 15126.4). The mitigation measures proposed by the Project for special-status amphibian species have yet to adopt specific performance standards the mitigation will achieve nor identifies type of potential action(s) that can achieve those performance standards.

Evidence impact would be significant: Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9). Impacts on ESA-listed species and SSC requires a mandatory finding of significance under CEQA (CEQA Guidelines, § 15065). ESA-listed species are considered rare, threatened, and endangered species under CEQA Guidelines section 15380. CDFW considers impacts to ESA-listed species a significant direct and cumulative adverse effect without implementing appropriate avoidance and/or mitigation measures. Take under ESA is more broadly defined than take under CESA. Take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting.

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

- is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role;
- is listed as ESA-, but not CESA-, threatened, or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA threatened or endangered status (CDFW 2022b).

CEQA provides protection not only for ESA and CESA-listed species, but for any species including but not limited to SSC which can be shown to meet the criteria for State listing. These SSC meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380).

The Project's impact on special-status amphibians has yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW and USFWS.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #35: Revise BIO-MM#7 – CDFW recommends the Authority revise BIO-MM#7 to specify survey methods and protocols (if available) that would be implemented to adequately detect special-status amphibian species during pre-construction surveys. CDFW recommends the Authority review CDFW [Survey and Monitoring Protocols and Guidelines](#) (CDFW 2022c) and USFWS [Survey Protocols and Guidelines](#) (USFWS 2022) webpages for survey protocols. Survey protocols should be incorporated into BIO-MM#7.

Mitigation Measure #36: Provide Compensatory Mitigation – CDFW recommends the Authority revise mitigation measures or provide a specific mitigation measure addressing compensatory mitigation for amphibian habitat. Mitigation should be specific, provide performance standards, and action(s) to achieve those performance standards. For each amphibian species, the Authority should provide criteria for selecting mitigation lands appropriate for amphibians, including both pond and upland habitat; mitigation land performance criteria; a plan to monitor success of mitigation, including relocation of individuals from impact area to mitigation land; and contingency measures if mitigation does not meet performance criteria.

Mitigation Measure #37: During initial ground-disturbing activities, a qualified biologist should conduct construction activity monitoring daily for arroyo toad (August 1 to March 31), western

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spadefoot (October 1 to May 31), California red-legged frog (November 1 to March 31), and southern mountain yellow-legged frog (March 1 to May 31).

Mitigation Measure #38: A qualified biologist should prepare an Amphibian Relocation and Avoidance Plan. The Amphibian Relocation and Avoidance Plan should describe proper avoidance, handling, and relocation protocols for each species that could occur on the Project-site. The Amphibian Relocation and Avoidance Plan should include species-specific avoidance buffers and suitable relocation areas at least 200 feet outside of the Project site. The qualified biologist should submit a copy of an Amphibian Relocation and Avoidance Plan to CDFW for approval prior to any clearing, grading, or excavation work on the Project site.

Mitigation Measure #39: If the Authority must relocate CESA- or ESA-listed species, the Authority should obtain appropriate take authorization from CDFW and/or USFWS.

Mitigation Measure #40: If the Authority must relocate Species of Special Concern, only a qualified biologist with appropriate handling permits should capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities. CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650). Please visit CDFW's [Scientific Collection Permits](#) webpage for information (CDFW 2022d). Pursuant to the [California Code of Regulations, title 14, section 650](#), the qualified biologist should obtain or have appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities.

Mitigation Measure #41: To compensate for permanent loss of habitat, the Authority should provide no less than 2:1 to offset impacts, or as required in a take permit authorized by USFWS for ESA-listed species or CDFW for CESA-listed species.

Comment #8: Impacts on Western Pond Turtle

Issue: The Project may continue to have a significant impact on western pond turtle (*Emys marmorata pallida*), an SSC.

Specific Impacts: Project construction and activities occurring during the breeding season could impact western pond turtle directly or by degrading nesting habitat quality in streams or pond margins as a result of altering hydrologic conditions. Impacts to western pond turtle could result in western pond turtle avoiding an established breeding territory, disrupting, and interrupting breeding behavior, suppressing reproductive activities, or causing injury or mortality to females, eggs, or hatchlings. These impacts could result in population decline of a SSC.

Why impact would occur: The Project would impact western pond turtle. Page 6-34 in the P-B BARTR states, "Additionally, turtles were observed at Una Lake during protocol California red-legged frog surveys. Though none of the turtles were identified in-hand, photographs of the turtles were taken and were positively identified as western pond turtles by biologists; therefore,

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HSR assumes presence of western pond turtle at Una Lake. Suitable natural and constructed watercourse habitats and suitable upland habitats are present within the habitat study area. Therefore, the western pond turtle is known to occur in Arrastre Creek, is assumed to occur in Una Lake, and is considered to have a high potential to occur in suitable habitat types within the Central Subsection of the habitat study area.”

The Project occurring at Una Lake and Arrastre Creek could impact western pond turtle directly or through habitat modification. According to page 3.7-158 in Section 3.7 Biological and Aquatic Resources, construction could kill, injure, or harass breeding females, eggs, or hatchlings. Construction could also permanently or temporarily destroy, degrade, fill, or pollute aquatic breeding or upland nesting habitats and cause permanent or temporary loss of other aquatic or upland refugia. These impacts could result in reduced breeding success and loss of breeding habitat.

To mitigate for the Project's impact special-status reptiles, which includes western pond turtle, the Project has proposed mitigation measure BIO-MM#7, 47, 53, and 93. However, the Project's impact has yet to be mitigated below a level of significance. BIO-MM#7 would require pre-construction surveys for special-status reptile species. As it is currently written, BIO-MM#7 does not provide specific survey methods for western pond turtle to demonstrate that pre-construction surveys would be effective to detect western pond turtle. If pre-construction surveys are ineffective to detect western pond turtle if they are present, then the Project proceeding after false-negative results could impact western pond turtle. BIO-MM#47, 53, and 93 do not address mitigation specific for western pond turtle. These mitigation measures do not provide performance criteria or action(s) to meet those performance criteria to compensate for impacts to western pond turtle habitat (CEQA Guidelines, § 15126.4). Lastly, the EIR/EIS has yet to mitigate for the Project's potential impacts on western pond turtle during the breeding season.

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

- is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role;
- is listed as ESA-, but not CESA-, threatened, or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA threatened or endangered status (CDFW 2022b).

Impacts on SSC could require a mandatory finding of significance under CEQA (CEQA Guidelines, § 15065). Impacts on western pond turtle, either directly or indirectly through habitat modifications, would be a significant impact. The Project's impact on western pond turtle as yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial

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adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #42: Revise BIO-MM#7 – Surveys for western pond turtle should follow established protocols including Draft [USFWS Western Pond Turtle Visual Survey Protocol for the Southcoast Ecoregion](#) (USFW 2006). Survey protocols should be incorporated into MM-BIO#7.

Mitigation Measure #43: Provide Compensatory Mitigation – CDFW recommends the Authority revise mitigation measures or provide a specific mitigation measure addressing compensatory mitigation for western pond turtle. Mitigation should be specific, provide performance standards, and action(s) to achieve those performance standards. The Authority should provide criteria for selecting mitigation lands appropriate for western pond turtle, including both aquatic and upland habitats; mitigation land performance criteria; a plan to monitor success of mitigation; and contingency measures if mitigation does not meet performance criteria.

Mitigation Measure #44: During the western pond turtle breeding season, a no-disturbance buffer of 475 feet should be implemented to protect nesting areas¹². This distance should be measured from the outside edge of wetland habitat suitable for the species within the Project site. No work should occur until after the breeding season.

Mitigation Measure #45: Outside of the breeding season, if the Authority must relocate western pond turtles, a qualified biologist should prepare a Western Pond Turtle Relocation Plan. The qualified biologist should submit a copy of a Western Pond Turtle Relocation Plan to CDFW for approval prior to any clearing, grading, or excavation work on the Project site. The Western Pond Turtle Relocation Plan should identify that only a qualified biologist with appropriate handling permits should capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities.

Comment #9: Impacts on Burrowing Owl

Issue: The Project may continue to have a significant impact on burrowing owl (*Athene cunicularia*) an SSC.

Specific Impacts: Project construction and activities may result in injury or mortality of burrowing owl, disrupt natural burrowing owl breeding behavior, and reduce reproductive capacity. Also, the Project may impact breeding, wintering, and foraging habitat for the species. Habitat loss could result in local extirpation of the species and contribute to local, regional, and State-wide declines of burrowing owl.

Why impact would occur: The Project would impact burrowing owl. Page 3.7-128 states,

¹² CDFW is recommending a 475-foot buffer since female pond turtles can move overland for up to 325 feet to find suitable sites for egg-laying. In addition to avoiding a minimum of 325 feet from the edge of a water feature, CDFW recommends an additional 150 foot beyond the 325-foot overland travel range to protect nests and nesting sites from direct and indirect Project disturbance.

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“Burrowing owls extensively use open landscapes with suitable natural or artificial burrows. Vibration from construction equipment along with increased vehicular traffic could collapse inhabited burrows.” To mitigate for the Project’s impact on burrowing owl, the Project proposes mitigation measures BIO-MM#21 and 44. However, the Project’s impact has yet to be mitigated below a level of significance. BIO-MM#21 would require 600-foot no-work buffers around occupied burrowing owl burrows both during the nesting season and outside breeding season and if buffers are not feasible, burrowing owl would be relocated citing CDFW’s [Staff Report on Burrowing Owl Mitigation](#) (CDFW 2012). However, 600 feet (182 meters) could be an insufficient buffer from occupied burrows and adjacent foraging grounds given the types of disturbance associated with the Project. Burrowing owls could react to low level disturbances such as surveys, drive by, or minimal ground disturbance/excavation (Environment Canada 2009). A buffer of 656 feet (200 meters) is recommended for low level disturbances (Environment Canada 2009). The Project is proposing a buffer that may be more suitable for low level disturbances; however, the Project could generate noise and ground vibrations more consistent with medium to high level disturbance. Project construction would generate noise and ground vibrations during daytime and nighttime earthmoving activities, demolition, tunneling, spoils hauling, and operation of large machinery. A 600-foot buffer from occupied burrows during these types of disturbances could result in burrowing owls abandoning active nests, potentially causing loss of eggs or developing young, and noise could cause birds to avoid suitable nesting habitat. In addition, 90 percent of burrowing owl activity during the nesting season is within 600 meters (1,968 feet) of a nest. A 600-foot buffer would not protect important foraging habitat during burrowing owl nesting season.

In addition, implementation of buffer “to the extent feasible” does not ensure that buffers will be required, which means that the mitigation proposed is not an enforceable requirement. Furthermore, CDFW’s Staff Report on Burrowing Mitigation does not support relocating breeding burrowing owls as mitigation, which is why relocating/translocating is not a measure in the Staff Report on Burrowing Mitigation. Finally, CDFW does not issue permits for the take of nesting birds, nests, or eggs. BIO-MM#44 requires compensatory mitigation for loss of active burrowing owl burrows and habitat. BIO-MM#44 points to BIO-MM#53 for preparing a Compensatory Mitigation Plan. BIO-MM#53 is not specific to burrowing owl and does not provide any performance standards suitable for successfully mitigating impacts on burrowing owl habitat. The mitigation measure proposed in the EIR/EIS may not satisfy the CEQA standards for deferred mitigation (CEQA Guidelines, § 15126.4).

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

- is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role;
- is listed as ESA-, but not CESA-, threatened, or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or,

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- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA threatened or endangered status (CDFW 2022b).

CEQA provides protection not only for ESA and CESA-listed species, but for any species including but not limited to SSC which can be shown to meet the criteria for State listing. These SSC meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380). In addition, migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Code of Federal Regulations, Title 50, § 10.13). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). It is unlawful to take, possess, or needlessly destroy the nest or eggs of any raptor.

The Project's impact on burrowing owl has yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #46: Revise BIO-MM#21 – CDFW recommends the Authority increase 600 feet to 1,650 feet no-work buffer to avoid impacts on occupied burrowing owl burrows during the nesting and non-nesting seasons (CDFW 2012). The Authority should remove “to the extent feasible.” The Authority should also remove relocation as mitigation under BIO-MM#21 and refer to CDFW's [Staff Report on Burrowing Owl Mitigation](#) to propose alternative means to mitigation for impacts on burrowing owl.

Mitigation Measure #47: Revise BIO-MM#53 – CDFW recommends the Authority revise mitigation measure BIO-MM#53 or provide a specific mitigation measure addressing compensatory mitigation for burrowing owl habitat. Mitigation should be specific, provide performance standards, and action(s) to achieve those performance standards. The Authority should provide criteria for selecting mitigation lands appropriate for burrowing owl; mitigation land performance criteria; a plan to monitor success of mitigation; and contingency measures if mitigation does not meet performance criteria.

Comment #10: Impacts on Bats

Issue: The Project may continue to have a significant impact on the following species of bats (collectively, bats), which includes some SSC (except for Yuma myotis):

- pallid bat (*Antrozous pallidus*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- western mastiff bat (*Eumops perotis californicus*)
- western red bat (*Lasiurus blossevillei*)
- western yellow bat (*Lasiurus xanthinus*)
- Yuma myotis (*Myotis yumanensis*)

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Specific Impacts: Project construction and activities may result in direct and indirect impacts to bats. Direct impacts include removal of trees and structures occupied by roosting bats. This could result in injury or mortality to bats as well as loss of roosting habitat. Indirect impacts to bats and roosts could result from increased noise disturbances, human activity, dust, vegetation clearing, ground-disturbing activities (e.g., staging, mobilizing, excavating, and grading), and vibrations caused by heavy equipment.

Why impact would occur: Page 3.7-150 states, “Direct effects on special-status bats would include mortality of individuals during construction and temporary disturbance from noise, dust, and ultrasonic vibrations from construction equipment. Direct effects also include permanent conversion or fragmentation of occupied roosting and foraging habitat to project infrastructure, which would interfere with seasonal movement and dispersal of special-status bats. Ground disturbing activities, such as excavation, vegetation removal, construction of the railbed, placement of temporary structures and staging areas, and equipment operation, would result in noise, dust, or vibration disturbance. These disturbances would indirectly disrupt breeding or roosting activity or result in the temporary loss of foraging habitat.”

To mitigate for the Project’s impact on bats, the Project proposes mitigation measures BIO-MM#25, 26, and 27. However, the Project’s impact has yet to be mitigated below a level of significance. BIO-MM#25 would require pre-construction surveys for bats prior to the removal of structures modeled as bat habitat. It is unclear what “structures modeled as bat habitat” means and therefore where within the Project site would bat surveys be performed. Site-specific, focused surveys are necessary to determine if bats and roosts are present in a variety of natural and human-made environments that modeling may have missed. These environments include caves, rocky crevices, cliffs, abandoned mines, barns, buildings, culverts, and bridges. In addition, BIO-MM#25 states that surveys would be conducted “to the extent possible” during favorable weather conditions. “To the extent possible” suggests that this mitigation measure is not enforceable. Bat presence, when informed by surveys conducted during unfavorable weather conditions, could result in false negatives. Insufficient bat surveys could result in injury or mortality of undetected bats and loss of bat roosts.

BIO-MM#26 and 27 would require avoidance or relocation of active hibernacula or maternity roosts “guided by accepted exclusion and deterrent techniques.” The EIR/EIS does not state what those “accepted exclusion and deterrent techniques” would be or from where they were derived. Accordingly, it is unclear how the mitigation measure would avoid or relocate active hibernacula or maternity roosts. BIO-MM#27 states that bats in active maternity roosts would not be evicted “if feasible”, and if not feasible, active maternity roosts would be relocated. Relocating or evicting bats in maternity roosts could result in reduced fecundity or injury and mortality of reproductive female bats and pups. Maternity colonies that are affected by temporarily reduced fecundity or mortality may require multiple years to recover following a disturbance event (H.T. Harvey & Associates 2019). Accordingly, the Project and mitigation measures proposed by the Project could result in a population decline of an SSC.

Finally, no compensatory mitigation is proposed in the EIR/EIS. The Project could result in loss of roosting habitat. Relocating or evicting active hibernacula or maternity roosts is not mitigating for loss of habitat that would occur.

Evidence impact would be significant: Bats are considered non-game mammals and are afforded protection by State law from take and/or harassment (Fish & G. Code, § 4150; Cal.

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Code of Regs, § 251.1). Several bat species are considered SSC. An SSC is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role;
- is listed as ESA-, but not CESA-, threatened, or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA threatened or endangered status (CDFW 2022b).

Impacts on SSC could require a mandatory finding of significance under CEQA (CEQA Guidelines, § 15065). Impacts on bats, either directly or indirectly through disturbances to roosts and loss of habitat, would be a significant impact. The Project's impact on bats has yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #48: Revise BIO-MM#25 – CDFW recommends the Authority revise BIO-MM#25 to state that site-specific field surveys should be conducted to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. The Authority should conduct bat surveys during favorable weather conditions only (instead of “to the extent possible”). In addition, the Authority should incorporate the following recommendation to BIO-MM#25:

“Two spring surveys (April through June) and two winter surveys (November through January) shall be performed by qualified biologists. 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.”

Mitigation Measure #49: Revise BIO-MM#26 – CDFW recommends the Authority specify the exclusion and deterrent techniques referenced in BIO-MM#26. In addition, BIO-MM#26 should be revised to state:

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"If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during pre-construction surveys, ~~they will be avoided to the extent feasible.~~ for maternity roosts, Project construction will only between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30). 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 Project 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."

Mitigation Measure #50: The Authority should compensate no less than 2:1 for permanent impacts to roosting habitat.

Comment #11: Impacts on Special-Status Plants and Sensitive Natural Communities

Issue: The Project may continue to have a significant impact on CESA and/or ESA-listed plants, and Sensitive Natural Communities.

Specific Impacts: The Project could result in the loss of individuals and populations of rare, threatened, and endangered plants and natural communities including, but not limited to Brunton's milkvetch (*Astragalus brauntonii*, ESA-listed), Nevin's barberry (*Berberis nevinii*, ESA- and CESA-listed), and slender-horned spineflower (*Dodecahema leptoceras*, ESA- and CESA-listed); and 41 rare plant species. In addition, the Project could result in loss of acreage of six Sensitive Natural Communities. Sensitive Natural Communities impacted would include California sycamore (*Platanus racemosa*) woodlands, Fremont cottonwood (*Populus fremontii*) forest, coast live oak (*Quercus agrifolia*) woodland, black willow (*Salix nigra*) thickets, and California walnut (*Juglans californica*) woodland.

Why impact would occur: The Project would impact special-status plants and Sensitive Natural Communities during surface construction and tunnel construction. Direct impacts on special-status plant species and habitat and Sensitive Natural Communities would result from the removal of vegetation for the installation of permanent infrastructure. Section 3.7 Biological and Aquatic Resources states, "Impacts would also result from construction vehicles and

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personnel disturbing vegetation through trampling, covering, undercutting, unearthing, crushing, or damaging the roots of individual plants; or clearing, excavating, or grubbing suitable potential habitat for special-status plant species. Soil compaction and placement of fill would directly affect special-status plant species by causing decreased fitness or death by root compaction.” Tunnel construction could result in localized changes of groundwater level, potentially having temporary indirect effects on the hydrology of groundwater-dependent surface water features, including springs, seeps, and perennial streams that provide habitat for special-status plants and special-status plant communities.

To mitigate for the Project's impact, the Project proposes mitigation measures BIO-MM#1, 2, and 38. However, the Project's impact has yet to be mitigated below a level of significance. BIO-MM#1 would require pre-construction surveys for Special-Status Plant Species and Special-Status Plant Communities. Those resources would then be flagged and mapped. BIO-MM#1 does not describe how the survey information would be used to avoid or minimize impacts. BIO-MM#2 would require preparation of a plan to salvage and relocate special-status plant seed and material, including topsoil, to “mitigation sites, refuges, reserves, federal or state lands, and public/private mitigation banks.” BIO-MM#2 may not satisfy the CEQA standards for deferred mitigation (CEQA Guidelines, § 15126.4). BIO-MM#2 has yet to adopt specific performance standards the mitigation will achieve nor identifies type of potential action(s) that can achieve those performance standards. For example, there is no information on what criteria would be used to select relocation site(s) that would be appropriate for each species impacted, survivorship goals, minimum maintenance requirements, monitoring plants, or contingency measures if relocation fails. BIO-MM#38 would require compensatory mitigation at a 1:1 ratio for ESA and CESA-listed plants. Compensatory mitigation proposed is not sufficient to offset the loss of an endangered or threatened species, or species that is declining regionally. In addition, 1:1 does not address the likelihood of temporal loss that would occur. Many species of rare plants are unlikely to be successfully salvaged, relocated, or planted. This is because relocation is typically experimental in nature and rare plants are habitat specialists that require specific habitat conditions to exist and persist. For example, a species of rare plant may require a particular soil type, set of pollinators, mycorrhizal fungi, associate plant species, microclimate. Until mitigation is successful in establish self-sustaining populations, there would be prolonged temporal impacts on rare plants. The compensatory mitigation proposed does not yet mitigate for this temporal loss.

Finally, the Project has yet to provide compensatory mitigation for impacts on Sensitive Natural Communities. The Project would impact State ranked S1 and S3 natural communities. While oak woodlands by definition (S4 ranking) is not a Sensitive Natural Community, CDFW considers impacts to oak woodlands to be significant. Oak woodlands have higher levels of biodiversity than any other terrestrial ecosystem in California. Over 330 species of birds, mammals, reptiles, and amphibians depend on oak woodlands in California at some stage in their life cycle (CalPIF 2002). Large oak trees in oak woodland habitats are important for cover, nesting sites for cup nesting species and cavity nesting species, as well as caching sites for birds storing acorns (CalPIF 2002). Oak woodlands also serve several important ecological functions important within an ecosystem such as protecting soils from erosion and land sliding, regulating water flow in watersheds, and maintaining water quality in streams and rivers.

Evidence impact would be significant: Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law under CESA (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9).

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In addition, take under ESA is more broadly defined than take under CESA. Take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting.

Plants with a California Rare Plant Rank (CRPR) of 1B and 2B meets the definition of endangered, rare, or threatened species under CEQA (CEQA Guidelines, § 15380; CNPS 2022). Plants with a CRPR of 4 may meet the definition of endangered, rare, or threatened species. Impacts on rare plants could require a mandatory finding of significance. Sensitive Natural Communities are communities that are of limited distribution State-wide or within a county or region and are often vulnerable to environmental effects of projects. CDFW considers plant communities, alliances, and associations with a State ranking of S1, S2, and S3 as sensitive and declining at the local and regional level. An S3 ranking indicates there are 21 to 100 viable occurrences of this community in existence in California, S2 has six to 20 occurrences, and S1 has fewer than six viable occurrences (Sawyer et al. 2009). Impacts to Sensitive Natural Communities should be considered significant under CEQA unless they are clearly mitigated below a level of significance.

CDFW considers coast live oak woodlands to be a sensitive plant community, especially oak riparian forests. Only 5 to 10 percent of California's original riparian habitat exists today and much of the remaining habitat is in a degraded condition. Oak trees and woodlands are protected by the Oak Woodlands Conservation Act (pursuant under Fish and Game Code sections 1360-1372) and Public Resources Code section 21083.4 due to the historic and on-going loss of these resources. Moreover, [CDFW's Areas of Conservation Emphasis - Significant Habitats](#) dataset includes oak woodlands as a Terrestrial Significant Habitat based on its priority for conservation and acquisition planning for some counties, local jurisdictions, and the Wildlife Conservation Board (CDFW 2019).

The Project's impact on special-status plants and Sensitive Natural Communities has yet to be mitigated below a significant level. Accordingly, the Project continues to have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species by CDFW or USFWS.

Recommended Potentially Feasible Mitigation Measure(s):

Recommendation #15: The EIR/EIS should discuss how BIO-MM#1 would avoid or minimize impacts on special-status plants and Sensitive Natural Communities.

Recommendation #16: Revise Table 3.7-4 – CDFW recommends the Authority revise Table 3.7-4 in Section 3.7 Biological and Aquatic Resources to provide affected natural community names based on the [Manual of California Vegetation](#) (CNPS 2022).

Mitigation Measure #51: Revise BIO-MM#1 – CDFW recommends the Authority provide requirements that would effectively avoid impacts on special-status plants and Sensitive Natural Communities if those resources are present.

Mitigation Measure #52: Revise BIO-MM#2 – CDFW recommends the Authority provide minimum requirements for ensuring that plant salvage and relocation would be successful. The Authority should at a minimum:

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- Relocate plants to areas where there would be no impact on in-situ populations of rare, endangered, or threatened plants;
- Provide at least five (5) years of monitoring;
- Provide a supplemental watering plan;
- Provide a weed management plan;
- Ensure that relocated plants are self-sustaining, with at least two (2) years of no supplemental watering;
- Achieve zero percent cover of non-native, invasive species listed as High or Moderate by the California Invasive Plant Council; and
- Provide contingency measures if relocation fails.

Mitigation Measure #53: Revise BIO-MM#38 – CDFW recommends the Authority revise BIO-MM#38 to provide no less than 2:1 ratio to offset direct impacts on ESA and CESA-listed species unless a higher ratio is required pursuant to regulatory authorizations.

Additional Comments and Recommendations

Recommendation #17: Fully Protected Birds – 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 the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan. CDFW recommends the Authority revise the mitigation measures below in order to sufficiently avoid impacts on Fully Protected birds.

- *Bald Eagle (Haliaeetus leucocephalus) and Golden Eagle (Aquila chrysaetos) (Eagles).* The EIR/EIS provides BIO-MM#66 and 67 to address the Project's impact on eagles. Under BIO-MM#66, the Authority should specify that a 1-mile line-of-sight and 0.5-mile no line-of-sight no-work buffer is the minimum. Currently BIO-MM#66 allows this buffer to be reduced; however, the Authority should revise this to ensure that under no circumstances should buffers be reduced. Under BIO-MM#67, the Authority should include CDFW as a regulatory agency that should be consulted if the Authority needs to develop a nest relocation or replacement plan¹³.
- *California Condor (Gymnogyps californianus).* The EIR/EIS provides BIO-MM#16, 71, and 72 to address the Project's impact on California condor. Under BIO-MM#16, the Authority should include CDFW as a regulatory agency that should be notified if the Authority becomes aware of or finds roosting California condors. Under BIO-MM#71, the Authority should include CDFW as a regulatory agency that should be notified prior to use of helicopters during construction where condors are present. Under BIO-MM#72, the Authority should provide criteria and thresholds it would use to determine, and how it would determine, whether Project-related nighttime lighting is posing a risk, disturbing, or harming. Then, the Authority should provide specific action(s) it would take to address those risks, disturbances, or harm. Mitigation is only effective if there are actions to address risks, disturbances, or harm to California condors. Finally, the Authority should

¹³ The Authority should not overlook that CDFW has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515.

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provide details for how it would monitor whether mitigative action(s) are effective.

- *White-Tailed Kite (Elanus leucurus)*. The EIR/EIS provides BIO-MM#68 to address the Project's impact on white-tailed kite. Under BIO-MM#68, the Authority should increase a 0.25-mile no-work buffer to 0.5-mile no-work buffer as the minimum, and under no circumstances should buffers be reduced.

Recommendation #18: Swainson's Hawk (*Buteo swainsonii*) – The EIR/EIS provides BIO-MM#43 to address the Project's impact on Swainson's hawk, a CESA-listed species. BIO-MM#43 would require compensatory mitigation for impacts to foraging habitat at 1:1 for primary foraging habitat, 0.75:1 for active secondary foraging habitat, and 0.5:1 for tertiary foraging habitat. While CDFW appreciates that the Authority would compensate for loss of foraging habitat, CDFW is concerned that BIO-MM#43 as it is currently proposed is insufficient to mitigate for loss of foraging habitat for a CESA-listed species.

Breeding pairs of Swainson's hawks are critical to conserving the species and preventing the population to become less than self-sustaining (CEC and CDFG 2010). The most recognized threat to Swainson's hawks is the loss of their native foraging and breeding grounds (CDFW 2016; CEC and CDFG 2010). As important foraging areas are converted to urban landscapes or other unsuitable habitat, the aptitude for the landscape to support breeding pairs decreases. In the Antelope Valley, the small number of breeding Swainson's hawks and the potential isolation from other Swainson's hawk populations makes the Antelope Valley population particularly susceptible to extirpation (CEC and CDFW 2010). Given the importance of foraging habitat to breeding pairs, impacts on foraging habitat in the Antelope Valley could significantly impact the Antelope Valley population. Significant effects on Swainson's hawk through habitat modifications and loss should be mitigated to reduce effects to less than significant.

The Project may continue to have a significant impact on Swainson's hawk given BIO-MM#43 as it is currently proposed. BIO-MM#43 would result in net loss of functional foraging habitat (i.e., 0.75:1 and 0.5:1) when there should be no net loss of habitat. In addition, 1:1 preservation may not be sufficient mitigation to ensure there is no net loss. For example, given five acres of foraging habitat in a landscape, one acre is developed. Of those four acres remaining, one acre is preserved to mitigate at 1:1. Still, that would leave four acres of foraging habitat instead of five acres, which would result in net loss. Given this example, the Project's proposal of 1:1 would result in net loss of important foraging habitat for Swainson's hawk. Accordingly, CDFW recommends the Authority revise BIO-MM#43 to provide a minimum of 2:1 compensatory mitigation so that there is no net loss of foraging habitat for Swainson's hawk. CDFW recommends 1:1 preservation and 1:1 creation/restoration for a net gain in foraging habitat. In addition, the Authority should provide the following information in the EIR/EIS to demonstrate that mitigation would be effective through adoption of performance standards:

- 1) Specific data and analyses that will be used to determine whether replacement habitat would provide functional foraging habitat and the quality of potential replacement habitat;
- 2) Definitions for "primary", "secondary", and "tertiary" foraging habitat;
- 3) Explanation of how mitigation ratios were developed, especially if replacement habitat has yet to be identified and habitat functionality and quality at those locations has yet to

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be determined;

- 4) Explanation of how the Authority would determine if replacement habitat is similar to the acres of functional foraging habitat impacted; and
- 5) Explanation of how the Authority would assess the performance of functional replacement habitat and use by Swainson's hawk.

Recommendation #19: Special-Status Passerine Birds – The Project proposes the following mitigation measures to address impacts on special-status species of passerine birds:

- BIO-MM#79 would require surveys for coastal California gnatcatcher (*Poliophtila californica californica*), an ESA-listed species, implementation of a 300-foot no-work buffer, and reduction of the buffer after consultation only with USFWS if 300 feet is not feasible.
- BIO-MM#80 would require surveys for least Bell's vireo (*Vireo bellii pusillus*), an ESA-listed and CESA-listed species, implementation of a 300-foot no-work buffer, and reduction of the buffer after consultation only with USFWS if 300 feet is not feasible.
- BIO-MM#81 would require surveys for southwestern willow flycatcher (*Empidonax traillii extimus*), an ESA-listed and CESA-listed species, implementation of a 300-foot no-work buffer, and reduction of the buffer after consultation only with USFWS if 300 feet is not feasible.
- BIO-MM#82 would require surveys for western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), an ESA-listed and CESA-listed species, implementation of a 300-foot no-work buffer, and reduction of the buffer after consultation only with USFWS if 300 feet is not feasible.

CDFW advises that the mitigation measures currently proposed may result in take of an ESA-listed and CESA-listed species. A 300-foot buffer is insufficient to avoid potential take of special-status passerine birds. A reduction in the buffer distance would further increase the potential for take and could result in the Project needing take authorization under CESA and ESA.

To sufficiently avoid impacts on special-status passerine birds, CDFW recommends the Authority increase avoidance buffers from 300 feet to 500 feet under BIO-MM#79 through 82. If the Authority is unable to avoid impacts on these listed species, the Authority should consult with CDFW and/or USFWS to determine if take authorization may be needed. Obtaining take authorization should be written into BIO-MM#79 and 82 as a requirement if impacts cannot be avoided. In addition, the Authority should revise BIO-MM#80, 81, and 82 to state that CDFW would also be consulted if the Project is unable to avoid impacts on least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo.

In addition, compensatory mitigation has yet to be provided for the Project's potential impact on these species as a result of habitat loss. The temporary exclusion of Project activities within nesting buffers during nesting season may not constitute effective mitigation for the purposes of offsetting Project impacts associated with the loss of breeding and nesting habitat. Effective mitigation for impacts to nesting habitat for birds and raptors requires structurally (e.g., ground

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cover, subshrubs, shrubs, and trees) and species diverse vegetation as part of habitat restoration. CDFW recommends the Authority provide compensatory mitigation for impacts on habitat. Please note that referencing BIO-MM#53 for the purposes of compensatory mitigation for special-status species habitat may be deferred mitigation.

Recommendation #20: Tricolored Blackbird (*Agelaius tricolor*) Nest Colonies – Tricolored blackbird is a CESA-listed species. The Project proposes BIO-MM#69 to avoid impacts on active tricolored blackbird nest colonies. BIO-MM#69 would require 300-foot no-work buffers “to the extent practicable.” Buffers may be reduced by the Project Biologist. In addition, if a new nesting colony is observed, a Project Biologist would establish buffers or sound curtains.

CDFW advises that BIO-MM#69 as it is currently proposed may result in take of a CESA-listed species. Tricolored blackbird aggregate and nest colonially, forming colonies of up to 100,000 nests that can expand over time. Adequate surveys are needed to identify the full extent of a nesting colony. Implementation of an insufficient buffer or reducing a buffer may be inadequate to avoid the entire nesting colony. Installing a sound curtain during the nesting season to adjust for survey shortfalls can disturb a nesting colony and result in population decline. Nesting can occur synchronously, with all eggs laid within one week. Depending on timing, disturbance to nesting colonies can cause abandonment, significantly impacting tricolored blackbird populations. CDFW recommends the Authority revise BIO-MM#69 as follows:

“[...] If construction is initiated near suitable habitat during the nesting season, three surveys will be conducted ~~within 15~~ no more than 10 days prior to construction, with one of the surveys within 5 days prior to the start of construction. If active tricolored blackbird nesting colonies are identified, construction activities will be avoided within 300 feet of the nesting colonies during the breeding season (March 15 through July 31) to the extent practicable and consistent with the CDFW’s *Staff Guidance Regarding Avoidance of Impacts on Tricolored Blackbird Breeding Colonies on Agricultural Fields* (2015). ~~This minimum buffer may be reduced in areas with dense forest, buildings, or other habitat features between the construction activities and the active nest colony, or where there is sufficient topographic relief to protect the colony from excessive noise or visual disturbance as determined by a Project Biologist experienced with tricolored blackbird. If tricolored blackbirds colonize habitat adjacent to construction after construction has been initiated, the Authority will reduce disturbance through establishment of buffers or sound curtains, as determined by the Project Biologist.~~ The 300-foot minimum no-work buffer shall remain in place until the breeding season has ended or until a qualified biologist has determined that nesting has ceased, the birds have fledged, and are no longer reliant upon the colony or parental care for survival. The Project Biologist shall reassess the nesting colony on a reoccurring basis to determine the extent of the breeding colony within 10 days of Project initiation. The Project Biologist shall immediately modify the 300-foot buffer to capture the entire colony if the extent increases.”

“In the event that a tricolored blackbird or their nesting colony is detected during surveys, the Authority shall consult with CDFW to discuss how to implement the Project and avoid take, or if avoidance is not feasible, to acquire an ITP, pursuant to Fish and Game Code section 2081(b), prior to any ground-disturbing activities.”

Recommendation #21: BIO-IAMF#12: Design the Project to be Bird Safe – Electrical components of the HSR system (e.g., the overhead quaternary system, upgraded power distribution poles, etc.) have the potential to result in electrocution and strike hazards for birds.

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BIO-IAMF#12 requires the Project be designed to be “bird safe.” On January 19, 2021, the Overhead Contact System Bird Electrocution Configuration Working Group (Working Group) prepared a memo to the Authority. The memo summarizes an extensive investigation by the Working Group to develop design recommendations to avoid avian electrocution as required by BIO-IAMF#12. On February 18, 2021, CDFW provided extensive comments and recommendations on designing the Project to be bird safe. The Authority has not addressed our concerns. Until CDFW’s concerns are addressed, CDFW does not believe that the Project would be designed to be bird safe. Accordingly, the Project continues to have a significant impact on birds, including special-status species and Fully Protected species.

The EIR/EIS currently does not provide adequate disclosure as to how the Project has been designed to be bird safe from the standpoint of electrocution. CDFW strongly recommends the Authority address CDFW’s concerns provided in our review of the memo. Then, the Authority should revise the EIR/EIS to discuss how the Project has been designed to be bird safe. The Authority should recirculate the EIR/EIS so the public and agencies may have necessary information to review and comment on the Project’s long-term impact on birds.

Recommendation #22: Deferred Mitigation – Many of the mitigation measures proposed by the Project, BIO-MM#1 through 101, contain the following language: “to the extent feasible.” It should be noted that aspects of mitigation measures may not be enforceable given that caveat. Those mitigation measures may not meet the standards for deferred mitigation under CEQA Guidelines section 15126.4. CDFW recommends the Authority revise all mitigation measures so that they are enforceable in order to adequately mitigate for the Project’s impact on biological resources.

Recommendation #23: BIO-MM#14: Conduct Pre-construction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds – Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Code of Federal Regulations, Title 50, § 10.13). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). It is unlawful to take, possess, or needlessly destroy the nest or eggs of any raptor. Please note that CDFW does not issue permits for take of nests, eggs, or chicks.

BIO-MM#14 would require a 75-foot no-work buffer around active nests. A 75-foot buffer may result in incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The Project would significantly increase ground and vegetation disturbance, noise levels, and human presence. These disturbances occurring within 75 feet of nesting birds could result in birds abandoning their nests, resulting in loss of fertile eggs or chicks. Accordingly, the Project may continue to have a significant impact on nesting birds. In order for the Project to minimize its impact on nesting birds, CDFW advises the Authority to implement a 300-foot minimum buffer for all non-listed passerine species and 500-foot buffer for all non-listed raptors.

Recommendation #24: BIO-MM#53: Prepare a CMP for Species and Species Habitat – Per BIO-MM#53, the Authority will prepare a Conservation Management Plan that “that sets out the compensatory mitigation that will be provided to offset permanent and temporary impacts on federal and state-listed species and their habitat, fish and wildlife resources regulated under Section 1600 et seq. of the Fish and Game Code, and certain other special-status species.” CDFW is concerned that BIO-MM#53 as written is not specific to any species. Because the

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CMP has yet to be developed, the public and reviewing agencies are unable to evaluate whether mitigation would be provided for all special-status species significantly impacted by the Project and whether mitigation could be successful and appropriate for each species. CDFW recommends the Authority provide a compensatory mitigation measure for each significantly impacted special-status species and their habitat. Mitigation measures should be specific, quantifiable, and enforceable. Mitigation measures should have specific goals to replace requisite habitat for each species in order to support self-sustaining populations.

Recommendation #25: BIO-MM#56: Conduct Monitoring of Construction Activities – CDFW recommends the Authority specify that a Project Biologist be on site daily during initial ground disturbing activities. After the area has been cleared, the Project Biologist should remain on site once a week or once every two weeks to continue to verify compliance with mitigation measures.

Recommendation #26: BIO-MM#61: Establish and Implement a Compliance Reporting Program – BIO-MM#61 states, “If agency personnel visit the construction footprint in accordance with BIO-IAMF#2, the Project Biologist will prepare a memorandum within one day of the visit that memorializes the issues raised during the field meeting. This memorandum will be submitted to the Authority via Environmental Mitigation Management and Assessment. Any issues regarding regulatory compliance raised by agency personnel will be reported to the Authority and the contractor.” CDFW recommends the Authority specify that issues raised by agencies will be addressed immediately. All related construction and activities should be temporarily halted until the Project Biologist/Authority resolves agency concerns. The Authority should ensure that agency concerns are resolved.

Recommendation #27: BIO-MM#76: Implement Wildlife Rescue Measures – BIO-MM#76 states, “The Project Biologist will follow all relevant guidelines for federal and state listed species.” CDFW recommends the Authority state what “guidelines” is being referenced.

Recommendation #28: Una Lake – CDFW appreciates that the Authority developed SR14A, E1A, and E2A Build Alternatives to avoid Una Lake. CDFW recommends that the Authority revise the EIR/EIS to clarify whether avoidance of Una Lake by 300 feet includes all Project components (i.e., double tracks, disturbance areas, staging areas, rights-of-way, drainage basins, roadways, and utility easements).

Recommendation #29: Alternatives – Page 8-7 in Section 8 Preferred Alternative and Station Sites states, “The Authority identified the Preferred Alternative [SR14A] by balancing the adverse and beneficial impacts of the project on the human and natural environment. There was no single determining factor in identifying the Preferred Alternative because of the multitude of issues considered and the varied input received from stakeholders on each of the six Build Alternatives. Furthermore, many impacts on the natural environment and community resources would be the same, or very similar, across each of six Build Alternatives and, therefore, do not always provide enough meaningful information to distinguish between the relative merits of the alternatives.” In addition, Table 8-2 on page 8-15 only summarizes impacts on special-status plant species, waters, and riparian habitat. It does not weigh impacts on wildlife movement, established corridors, mountain lion, and special-status wildlife species for each alternative.

CDFW does not agree that the Project’s impacts on biological resources would be the same or similar across all six Build Alternatives. Alignments that more strictly following the State Route

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14 freeway corridor would result in impacts on wildlife connectivity that the other alternatives may not (see Comment #1 in this letter). CDFW recommends the Authority consider CDFW's comments and perform additional analyses prior to finalizing the EIR/EIS and selecting a preferred alternative.

Recommendation #30: Project Design Changes – The Project description includes several design features to avoid or minimize impacts to biological resources. For instance, specific lengths and locations for viaducts, walls, and embankments are identified in the Project description in the EIR/EIS. These Project design features should not change at the site-level during construction. Changes to design features after the CEQA review process is complete (e.g., from viaducts to full embankments, longer embankments reducing viaducts, additional walls, new features) could result in additional significant impacts not identified and analyzed in the current EIR/EIS (CEQA Guidelines, § 15162). This may result in the need for additional CEQA review. The Authority should conduct additional environmental review if Project design features change from what was described in the EIR/EIS. Otherwise, any such changes that may need to be incorporated into a LSA Agreement and/or CESA permitting processes may require CDFW to act as the lead agency and this may result in significant permit issuance delays. The Authority should incorporate site-specific review and consultation before construction to verify the extent/magnitude of impacts and mitigation are consistent with the EIR/EIS analysis.

Recommendation #31: Mitigating for Impacts within Region – Throughout CDFW consultation on the Project, we have continued to emphasize the need for the Authority to generally mitigate impacts within Los Angeles County or CDFW Region 5 when feasible. Mitigation should occur within Los Angeles County or CDFW Region 5 in order to ensure no net loss of biological resources within the area where the Project would occur (see Additional Recommendation #18 for an explanation of no net loss).

Recommendation #32: Site-Specific Surveys – Impacts associated with the Project are primarily estimated using coarse-level predictive habitat modeling without having site-specific surveys to supplement the modeling effort. In addition, the EIR/EIS consistently defaults to the lack of CNDDDB occurrence to conclude whether a species is present. Please note that modeling and CNDDDB is not a substitute for site-specific, focused species surveys. Reporting data to the CNDDDB is voluntary, and it was only recently that entry of data became strongly recommended or required for candidate species like mountain lion, western Joshua tree, and Crotch bumble bee. Areas without records should not be treated as areas where species do not occur. Our primary concerns with using modeling without site-specific protocol surveys to assess and quantify impacts for purposes of CESA include the following:

- Modeling alone may not capture the full extent of species occurrences and habitat suitability, primarily due to the inherent accuracy issues associated with using regionally based data to determine site-specific impacts without a reliable verification method (e.g., protocol surveys). Using only predictive modeling to evaluate species presence and to quantify project-specific impacts could miss marginal or atypical habitat usage, especially by highly mobile species. Also, using only predictive modeling could impose a risk of unauthorized take. In addition, some areas not ranked as suitable have not been surveyed recently or have never been surveyed.

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- Due to the stochasticity and cryptic nature of some species, it is very difficult to accurately “detect” species and determine mitigation requirements using modeling. Some species are unpredictable due to variables the modeling may not or cannot adequately capture; habitat requirements that are constantly evolving over time or space; or have distributions that can be analyzed statistically but not be predicted precisely. For example, opportunistic species can have dynamic ranges and use areas that are not identified or ranked by current model parameters.
- As an estimation of reality, the current model includes a defined range of species and conditions (using the rules selected) based on a snapshot of time. This may not accurately capture use by all species when impacts occur and/or translate down to the site-specific (e.g., footprint) level. Modeling alone can provide a statistically significant underrepresentation of habitats potentially occupied by CESA-listed species. For example, some listed plants may only occur at specific times of the year under certain conditions and only be adequately evaluated with protocol surveys within the project footprint at the appropriate time. Likewise, some Fully Protected bird species not known to nest or breed in the Project site (e.g., white-tailed kite and bald eagle) could be transient to the area at certain times of the year.

CDFW continues to emphasize that although the current modeling can be a helpful tool for the Authority’s own preliminary evaluation, as well as for compensatory mitigation planning, it will not be a substitute for CDFW’s analysis when it comes to permitting. CDFW is concerned that the lack of current, site-specific information to accurately quantify the magnitude of impact to CESA-listed species may cause delays in the impact of the taking analyses necessary for CESA and issuance of an ITP. CDFW will need to conclude whether listed species will be impacted by the Project. If predictive modeling is used in lieu of biological surveys by the Authority, CDFW’s ITP related analysis may need to err on the side of assuming presence in the Project footprint where suitable habitat is present.

CDFW has continually emphasized the need for site-specific, focused species surveys. The Authority will need to provide site-specific biological assessments to support any LSA Notifications and/or CESA take authorization applications required for the Project.

Recommendation #33: Use of Pre-Construction/Modified Protocol Surveys – CDFW recognizes that the Authority proposes to use additional surveys for certain species to supplement the modeling results and to refine the impact analysis. It is important to acknowledge that pre-construction or modified surveys are not equivalent to protocol surveys that are designed for maximum detectability. Unless these supplemental surveys are conducted at the appropriate time of year/conditions and sufficiently in advance of construction, their utility for use as “negative” surveys may be limited. Problems that may occur with the use of these types of surveys include the following:

- If they are conducted in a drought period, plant populations may not be detected or adequately characterized, which could cause construction delays. Having at least two years of site-specific surveys would greatly enhance the reliability of the modeling and related impact analyses.
- Scheduling surveys too early or too late can allow for situations to develop and delay construction (e.g., establishment of pre-natal dens, detection of unexpected plant populations).

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Because CDFW must determine an estimate of take and impact analysis for CESA-listed species to issue an ITP, we recommend a two-pronged survey approach that consists of protocol then pre-construction verification surveys at appropriate times for a given species.

Recommendation #34: Reporting Data – CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database (e.g., CNDDDB) which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. The Authority should submit information on special-status species to the CNDDDB by completing and submitting [CNDDDB Field Survey Forms](#) (CDFW 2022e). Information on special-status native plant populations and sensitive natural communities, the [Combined Rapid Assessment and Relevé Form](#) should be completed and submitted to CDFW's Vegetation Classification and Mapping Program (CDFW 2022f).

Recommendation #35: Mitigation Measures – CDFW recommends the Authority revise the Project's proposed Biological Resources Mitigation Measures and condition the environmental document to include mitigation measures recommended in this letter. CDFW provides comments to assist the Authority in developing mitigation measures that are specific, detailed (i.e., responsible party, timing, specific actions, location), enforceable through permit conditions, agreements, or other legally-binding instruments [CEQA Guidelines, § 15126.4(a)(2)], and clear for a measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (CEQA Guidelines, § 15097; Pub. Resources Code, § 21081.6). The Authority is welcome to coordinate with CDFW to further review and refine the Project's mitigation measures.

Per Public Resources Code section 21081.6(a)(1), CDFW has provided the Authority with a summary of our suggested mitigation measures and recommendations in the form of an attached Draft Mitigation and Monitoring Reporting Plan (MMRP; Attachment E).

Filing Fees

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required 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

We appreciate the opportunity to comment on the Project to assist the Authority in adequately analyzing and minimizing/mitigating impacts to biological resources. We look forward to continuing to work with the Authority, both as State agencies, to address the Project's impacts to biological resources. CDFW sincerely hopes that the Authority takes our comments and recommendations into consideration and that the Authority may address our outstanding concerns. CDFW requests an opportunity to review and comment on any response that the Authority has to our comments and to receive notification of any forthcoming hearing date(s) for the Project [CEQA Guidelines, § 15073(e)].

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If you have any questions or comments regarding this letter, please contact Ruby Kwan-Davis, Senior Environmental Scientist, at (562) 619-2230 or by email at Ruby.Kwan-Davis@wildlife.ca.gov.

Sincerely,

DocuSigned by:

A87CE992DB57479...

Edmund Pert
Regional Manager
South Coast Region

Enclosure(s):

Attachment A: CDFW's comments on the first administrative draft EIR/EIS for the Palmdale to Burbank segment of the High-Speed Rail (February 26, 2021)

Attachment B: CDFW's comments for the Santa Clara River Crossing (Soledad Canyon) – Data Request for the SR-14 Alternative Alignment of the High-Speed Rail – Palmdale to Burbank (August 15, 2018)

Attachment C: Gabion-like structures in Santa Clara River near the proposed Santa Clara River Crossing.

Attachment D: High-Speed Rail Proposed Wildlife Crossings

Attachment E: Mitigation Monitoring and Reporting Plan (MMRP)

cc: CDFW

Erinn Wilson-Olgin, Seal Beach – Erinn.Wilson-Olgin@wildlife.ca.gov

Victoria Tang, Seal Beach – Victoria.Tang@wildlife.ca.gov

Ruby Kwan-Davis, Seal Beach – Ruby.Kwan-Davis@wildlife.ca.gov

Felicia Silva, Seal Beach – Felicia.Silva@wildlife.ca.gov

Julisa Portugal, Seal Beach – Julisa.Portugal@wildlife.ca.gov

Frederic (Fritz) Rieman, Seal Beach – Frederic.Rieman@wildlife.ca.gov

Emily Galli, Seal Beach – Emily.Galli@wildlife.ca.gov

Krista Tomlinson, Fresno – Krista.Tomlinson@wildlife.ca.gov

Cindy Hailey, San Diego – Cindy.Hailey@wildlife.ca.gov

CEQA Program Coordinator, Sacramento – CEQACommentLetters@wildlife.ca.gov

U.S Army Corp of Engineers

Veronica Li – Veronica.C.Li@usace.army.mil

U.S Fish and Wildlife Service

Sally Brown – Sally.Brown@fws.gov

Santa Monica Mountains Conservancy

Paul Edelman – Edelman@smmc.ca.gov

OPR

State Clearinghouse – State.Clearinghouse@opr.ca.gov

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State of California – Natural Resources Agency

DEPARTMENT OF FISH AND WILDLIFE

South Coast Region

3883 Ruffin Road

San Diego, CA 92123

(858) 467-4201

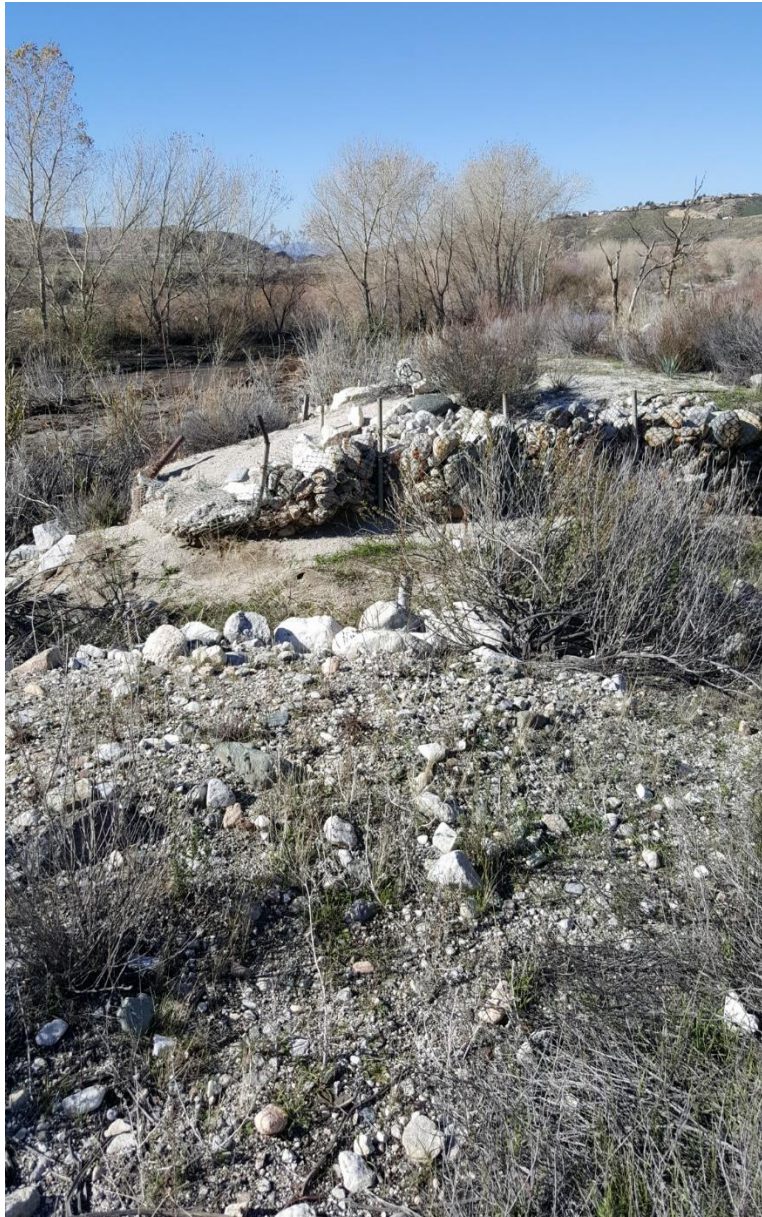
www.wildlife.ca.gov

GAVIN NEWSOM, Governor

CHARLTON H. BONHAM, Director



Attachment C: Gabion-like structures in Santa Clara River near the proposed Santa Clara River Crossing. Images captured on January 25, 2017 (images provided by the U.S Army Corp of Engineers).





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South Coast Region

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San Diego, CA 92123

(858) 467-4201

www.wildlife.ca.gov

GAVIN NEWSOM, Governor

CHARLTON H. BONHAM, Director





State of California – Natural Resources Agency

DEPARTMENT OF FISH AND WILDLIFE

South Coast Region

3883 Ruffin Road

San Diego, CA 92123

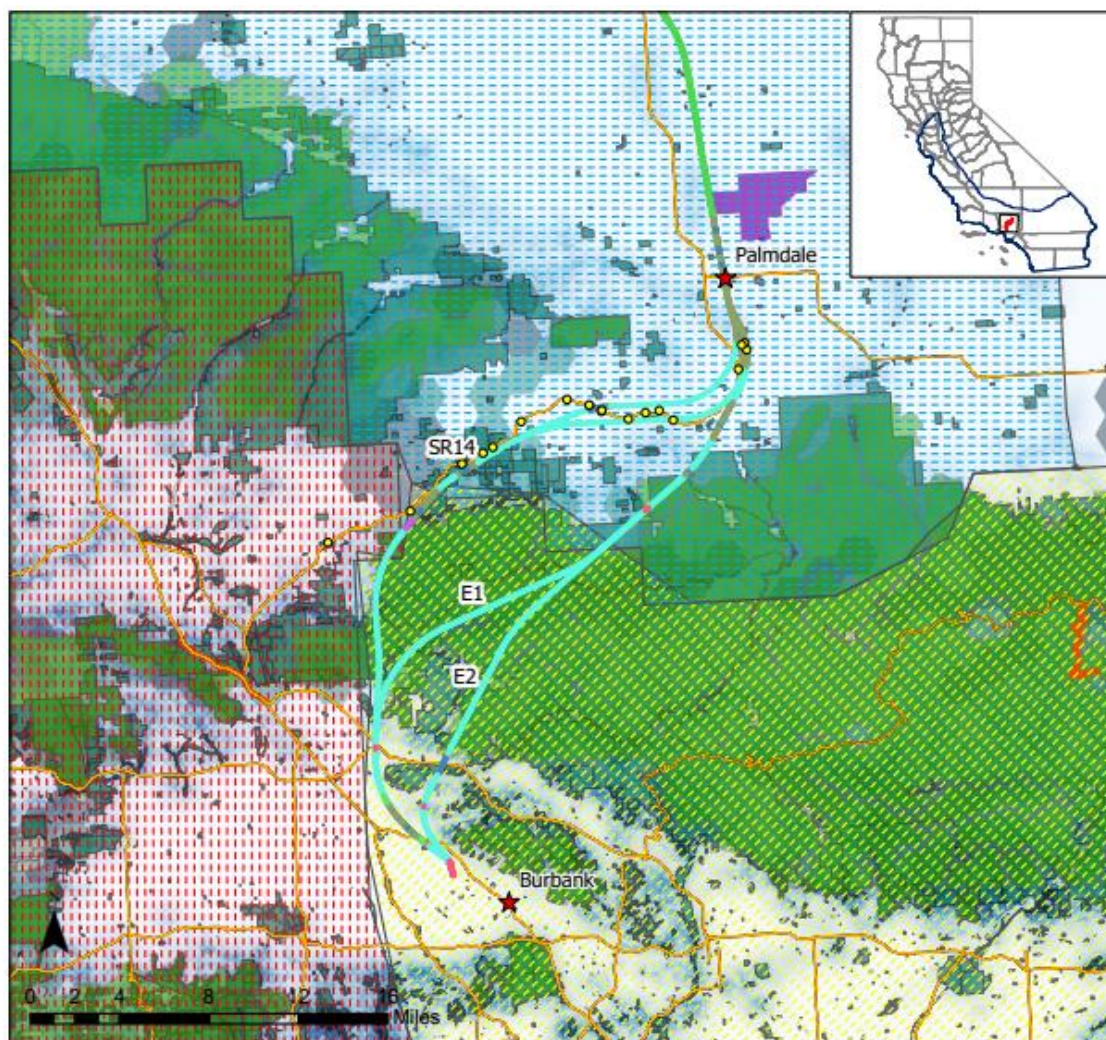
(858) 467-4201

www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



Attachment D: Wildlife Crossings (yellow points) CDFW proposes the High-Speed Rail Authority construct in order to mitigate for the Project's impact on wildlife connectivity.



Data sources:
HSR Alignment and Proposed Crossings: High Speed Rail Program
CPAD: California Protected Areas Database
Mountain Lion Suitability Model: Dellinger et al. 2020
Mountain Lion Populations: CDFW Dataset numbers (e.g., ds1234) refer to the CDFW BIOS (www.wildlife.ca.gov/Data/BIOS) dataset number.

- HSR Proposed Wildlife Crossings
- HSR P-B Alignments Under Consideration
 - At-grade
 - At-grade Covered
 - Cut and Cover
 - Elevated / Aerial Structure
 - Retained Cut / Trench
 - Tunnel
- Highways
- Southern CA/Central Coast Mountain Lion ESU
- Population
 - Western Sierra
 - Santa Monica
 - Transverse Rng

- CDFW 2020 Wildlife Barrier Priorities [ds2867]
- Natural Landscape Blocks (CEHC) [ds621]
- CPAD DOD Lands
- CPAD Protected Lands
- California Conservation Easements Database
- Terrestrial Connectivity - ACE [ds2734]
- Connectivity Rank
 - 5 - Irreplaceable and Essential Corridors
 - 4 - Conservation Planning Linkages
- Mountain Lion Suitability Model (Summer)
 - High : 0.595018
 - Low : 0
- ★ cities



State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 South Coast Region
 3883 Ruffin Road
 San Diego, CA 92123
 (858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



Attachment E: Draft Mitigation and Monitoring Reporting Plan

CDFW recommends the following language to be incorporated into the Project's environmental document.

Biological Resources (BIO)			
Mitigation Measure (MM) or Recommendation (REC)		Timing	Responsible Party
REC #1- Impacts on Unarmored Threespine Stickleback- Consult with CDFW	The Authority should consult with CDFW regarding the Project's impact on UTS.	Prior to finalizing CEQA document	California High-Speed Rail Authority (Authority)
	<u>Santa Clara River Crossing</u>. The Authority should reinstate consultation with CDFW and resolve CDFW's concerns regarding the Project's impact on UTS. The Authority should provide the below requested information and studies for the bridge to demonstrate complete avoidance of UTS: 1) Detailed description of the geomorphic setting and why the bridge design is appropriate for the setting; 2) Geomorphic assessment of stream bed and bank stability, including potential influence of downstream mining operations, cultural activities, and the Project's impact on Bee Canyon; 3) Potential for debris or log jams at the bridge site; 4) Sediment transport and scour analysis (which should account for the removal of the existing non-engineered gabion-like structures); 5) Hydraulic studies (including model files, boundary conditions, and other model parameters) showing water surface profiles and average channel velocities for the design flows and the 50- and 100-year flows; 6) Detailed description of potential dewatering plans;		

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	7) Geotechnical assessments to ensure bridge design is structurally appropriate; and 8) Design drawings showing site topography, control points, and dimensions of bridge in plan, elevation, and longitudinal profile and cross-sectional views. The Authority should continue to collaborate with CDFW to develop a bridge design that would avoid impacts on UTS.		
REC #2- Impacts on Unarmored Threespine Stickleback- Revise and Recirculate EIR/EIS	Following consultation with CDFW, the Authority should revise the EIR/EIS to discuss how the Santa Clara River Crossing, electrical utility corridor at Lang Station Road, utility corridor along Arrastre Canyon Road, and tunnels on the south side of Santa Clara River have been designed to completely avoid impacts on UTS. In addition, the EIR/EIS should describe all activities that may occur during the construction, operation, and maintenance phases; how frequently operation and maintenance activities would occur; describe all impacts on UTS that may occur; and provide any measures to avoid impacts on UTS. The Authority should recirculate a revised EIR/EIS to provide the public an opportunity to review and comment on the Project's impact on UTS, and how the Santa Clara River Crossing, electrical utility corridor at Lang Station Road, utility corridor along Arrastre Canyon Road, and tunnels have been designed to avoid those impacts.	Prior to finalizing CEQA document	Authority
REC #3-Impacts on Unarmored Threespine Stickleback-Hydroacoustic Impacts on Fish	The Authority should revise the EIR/EIS to provide a thorough discussion of what methods the Project would use to install piles and piers, how UTS may be affected, and how those methods would avoid effects on UTS. The EIR/EIS should provide the following information: 1) A description of the driver type(s) that would be used and methodology;	Prior to finalizing CEQA document	Authority

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	2) A description of sound pressure levels and sound exposure levels; 3) An analysis of hydroacoustic impacts to nearby surface waters resulting from each bent and column as shown in the February 2021 Bridges and Elevated Structures Plans; 4) A description of injury levels for fish larger and less than two grams; 5) A discussion of whether the Project would result in injury and/or behavioral effects on fish; 6) A discussion of why driver type(s) would avoid effects to UTS; 7) A plan to attenuate sound pressure; and 8) A plan to monitor hydroacoustics. The Authority should provide additional measures to mitigate for the Project's significant impacts on fish not previously identified.		
REC #4-CESA Incidental Take Permit and CEQA	The Project's CEQA document should address all the Project's impact on CESA endangered, threatened, and/or candidate species. The Project's CEQA document should also specify a mitigation monitoring and reporting program that will meet the requirements of an ITP. Take proposed to be authorized by CDFW's ITP should be described in detail in the Project's CEQA document. Also, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for an ITP.	Prior to finalizing CEQA document	Authority
REC #5-Impacts on Mountain Lion and Wildlife Movement-Gene Flow	The Authority should revise Section 3.7 Biological and Aquatic Resources to discuss the Project's impact (and level of significance) on mountain lion from the standpoint of genetic exchange between the Southern California/Central Coast ESU subpopulations.	Prior to finalizing CEQA document	Authority
REC #6-Impacts on Mountain Lion	The Authority should discuss the Project's cumulative impacts on mountain lion with genetic exchange effects included as part of the discussion. The EIR/EIS should provide data to support the	Prior to finalizing	Authority

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and Wildlife Movement-Cumulative Impacts	Authority's conclusion regarding the Project's impact on mountain lion and level of significance.	CEQA document	
REC #7-Impacts on Mountain Lion and Wildlife Movement-Cumulative Impacts	If SR14 or SR14A is the preferred alternative, the Authority should minimize impacts to mountain lion and wildlife movement by modifying the at-grade segment of HSR adjacent to Bee Canyon to a tunnel or at-grade covered segment. If this alternative is not feasible or the Authority declines to adopt it, the Authority should revise the EIR/EIS to provide a meaningful evaluation and analysis as to why the Authority cannot modify the at-grade segment.	Prior to finalizing CEQA document	Authority
REC #8-Lake and Streambed Alteration Agreement and CEQA	To minimize additional requirements by CDFW pursuant to Fish and Game Code section 1600 <i>et seq.</i> and/or under CEQA, the Project's CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of an LSA Agreement.	Prior to finalizing CEQA document	Authority
REC #9-Impacts on Aquatic Resources-Field Evaluations	The Authority should conduct field evaluations to confirm impacts to streams for the Project once Right-of-Way is secured by the Authority (also see Additional Recommendation #32).	Prior to submitting an LSA Notification	Authority
REC #10-Impacts on Aquatic Resources-Impacts on Streams from Nighttime Construction Lighting	The EIR/EIS should discuss the Project's impacts on streams from the standpoint of any nighttime lighting that may be needed during construction. The EIR/EIS should provide measures to mitigate for any significant effects on streams from construction lighting.	Prior to finalizing CEQA document	Authority
REC #11-Impacts on Aquatic Resources-	The Authority should make the following revisions: 1) In Table 1 Metrics for Potential Effects Indicators, under U.S. Forest Service Standard 45, a reduction in water level	Prior to finalizing CEQA document	Authority

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Appendix 3.8-C Water Resources Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest	is not the only change that could lead to effects on aquatic resources. Therefore, the Authority should also monitor water pressure, flow, velocity, water quality, and wetted perimeter. 2) In the same Table, under U.S. Forest Service Standards 47 and 11, the Authority should reduce the trigger level from a current proposal of 20 percent. In addition, the Authority should provide location and species-specific trigger levels. Trigger levels should be set lower where there are Sensitive Natural Communities or special-status species present in order to rapidly detect and respond to tunneling impacts on those resources. Lastly, the Authority should set a trigger not only for canopy cover reduction but also species richness, density, and abundance.		
REC #12- Impacts on Aquatic Resources- Trigger Level	The EIR/EIS should discuss the new trigger level pertaining to U.S. Forest Service Standards 47 and 11 and discuss why trigger levels proposed would adequately detect and respond to impacts on aquatic resources in an efficient and effective manner.	Prior to finalizing CEQA document	Authority
REC #13- Impacts on Aquatic Resources- Appendix 3.8-D Supplemental Water Demand Analysis for Potential Impacts Within the Angeles National Forest/San Gabriel Mountains	The Authority should provide documentation that there would be supplemental water available for the Project. Documentation should be provided in the EIR/EIS and the EIR/EIS should be recirculated so the public and agencies can review the feasibility of BIO-MM#94 and HWR-MM#4.	Prior to finalizing CEQA document	Authority

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National Monument			
REC #14- Impacts on Western Joshua Tree- Discuss Project Impacts on Western Joshua Tree	The Authority should conduct a focused western Joshua tree mapping survey. The Authority should update Section 3.7 Biological and Aquatic Resources to include a discussion of the Project's impact on western Joshua tree (see Recommendation #4 regarding CEQA for issuance of an ITP).	Prior to finalizing CEQA document	Authority
Rec #15- Impacts on Special-Status Plants and Sensitive Natural Communities	The EIR/EIS should discuss how BIO-MM#1 would avoid or minimize impacts on special-status plants and Sensitive Natural Communities.	Prior to finalizing CEQA document	Authority
Rec #16- Impacts on Special-Status Plants and Sensitive Natural Communities	The Authority should revise Table 3.7-4 in Section 3.7 Biological and Aquatic Resources to provide affected natural community names based on the Manual of California Vegetation .	Prior to finalizing CEQA document	Authority
Rec #17- Fully Protected Birds-	The Authority should revise the mitigation measures below in order to sufficiently avoid impacts on Fully Protected birds. <i>Bald Eagle (Haliaeetus leucocephalus) and Golden Eagle (Aquila chrysaetos) (Eagles).</i> Under BIO-MM#66, the Authority should specify that a 1-mile line-of-sight and 0.5-mile no line-of-sight no-work buffer is the minimum. Currently BIO-MM#66 allows this buffer to be reduced; however, the Authority should revise this to ensure that under no circumstances should buffers be reduced. Under BIO-MM#67, the Authority should include CDFW as a	Prior to finalizing CEQA document	Authority

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	regulatory agency that should be consulted if the Authority needs to develop a nest relocation or replacement plan. • <i>California Condor (Gymnogyps californianus)</i>. Under BIO-MM#16, the Authority should include CDFW as a regulatory agency that should be notified if the Authority becomes aware of or finds roosting California condors. Under BIO-MM#71, the Authority should include CDFW as a regulatory agency that should be notified prior to use of helicopters during construction where condors are present. Under BIO-MM#72, the Authority should provide criteria and thresholds it would use to determine, and how it would determine, whether Project-related nighttime lighting is posing a risk, disturbing, or harming. Then, the Authority should provide specific action(s) it would take to address those risks, disturbances, or harm. Finally, the Authority should provide details for how it would monitor whether mitigative action(s) are effective. • <i>White-Tailed Kite (Elanus leucurus)</i>. Under BIO-MM#68, the Authority should increase a 0.25-mile no-work buffer to 0.5-mile no-work buffer as the minimum, and under no circumstances should buffers be reduced.		
Rec #18-Swainson's Hawk	The Authority should revise BIO-MM#43 to provide a minimum of 2:1 compensatory mitigation so that there is no net loss of foraging habitat for Swainson's hawk. CDFW recommends 1:1 preservation and 1:1 creation/restoration for a net gain in foraging habitat. In addition, the Authority should provide the following information in the EIR/EIS to demonstrate that mitigation would be effective through adoption of performance standards: 1) Specific data and analyses that will be used to determine whether replacement habitat would provide functional foraging habitat and the quality of potential replacement habitat; 2) Definitions for "primary", "secondary", and "tertiary" foraging	Prior to finalizing CEQA document	Authority

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	habitat; 3) Explanation of how mitigation ratios were developed, especially if replacement habitat has yet to be identified and habitat functionality and quality at those locations has yet to be determined; 4) Explanation of how the Authority would determine if replacement habitat is similar to the acres of functional foraging habitat impacted; and 5) Explanation of how the Authority would assess the performance of functional replacement habitat and use by Swainson's hawk.		
Rec #19- Special-Status Passerine Birds	The Authority should increase avoidance buffers from 300 feet to 500 feet under BIO-MM#79 through 82. If the Authority is unable to avoid impacts on these listed species, the Authority should consult with CDFW and/or USFWS to determine if take authorization may be needed. Obtaining take authorization should be written into BIO-MM#79 and 82 as a requirement if impacts cannot be avoided. In addition, the Authority should revise BIO-MM#80, 81, and 82 to state that CDFW would also be consulted if the Project is unable to avoid impacts on least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. In addition, the Authority should provide compensatory mitigation for impacts on habitat.	Prior to finalizing CEQA document	Authority
Rec #20- Tricolored Blackbird Nest Colonies	The Authority should revise BIO-MM#69 as follows: "[...] If construction is initiated near suitable habitat during the nesting season, three surveys will be conducted ~~within 15~~ <u>no more than 10</u> days prior to construction, with one of the surveys within 5 days prior to the start of construction. If active tricolored blackbird nesting colonies are identified, construction activities will be avoided within 300 feet of the nesting colonies during the breeding season (March 15 through July 31) to the extent practicable and consistent with the CDFW's <i>Staff Guidance Regarding Avoidance</i>	Prior to finalizing CEQA document	Authority

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	<i>of Impacts on Tricolored Blackbird Breeding Colonies on Agricultural Fields</i> (2015). ~~This minimum buffer may be reduced in areas with dense forest, buildings, or other habitat features between the construction activities and the active nest colony, or where there is sufficient topographic relief to protect the colony from excessive noise or visual disturbance as determined by a Project Biologist experienced with tricolored blackbird. If tricolored blackbirds colonize habitat adjacent to construction after construction has been initiated, the Authority will reduce disturbance through establishment of buffers or sound curtains, as determined by the Project Biologist.~~ <u>The 300-foot minimum no-work buffer shall remain in place until the breeding season has ended or until a qualified biologist has determined that nesting has ceased, the birds have fledged, and are no longer reliant upon the colony or parental care for survival. The Project Biologist shall reassess the nesting colony on a reoccurring basis to determine the extent of the breeding colony within 10 days of Project initiation. The Project Biologist shall immediately modify the 300-foot buffer to capture the entire colony if the extent increases.</u> <u>“In the event that a tricolored blackbird or their nesting colony is detected during surveys, the Authority shall consult with CDFW to discuss how to implement the Project and avoid take, or if avoidance is not feasible, to acquire an ITP, pursuant to Fish and Game Code section 2081(b), prior to any ground-disturbing activities.”</u>		
Rec #21- BIO-IAMF#12: Design the Project to be Bird Safe	The Authority should address CDFW’s concerns provided in the Overhead Contact System Bird Electrocution Configuration Working Group (Working Group) memo to the Authority. Then, the Authority should revise the EIR/EIS to discuss how the Project has been designed to be bird safe. The Authority should recirculate the EIR/EIS so the public and agencies may have necessary information to review and comment on the Project’s long-term impact on birds.	Prior to finalizing CEQA document	Authority

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Rec #22-Deferred Mitigation	The Authority revise all mitigation measures so that they are enforceable in order to adequately mitigate for the Project's impact on biological resources.	Prior to finalizing CEQA document	Authority
Rec #23- BIO-MM#14: Conduct Pre-construction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds	The Authority should implement a 300-foot minimum buffer for all non-listed passerine species and 500-foot buffer for all non-listed raptors.	Prior to finalizing CEQA document	Authority
Rec #24- BIO-MM#53: Prepare a CMP for Species and Species Habitat	The Authority should provide a compensatory mitigation measure for each significantly impacted special-status species and their habitat. Mitigation measures should be specific, quantifiable, and enforceable. Mitigation measures should have specific goals to replace requisite habitat for each species in order to support self-sustaining populations.	Prior to finalizing CEQA document	Authority
Rec #25- BIO-MM#56: Conduct Monitoring of Construction Activities	The Authority should specify that a Project Biologist be on site daily during initial ground disturbing activities. After the area has been cleared, the Project Biologist should remain on site once a week or once every two weeks to continue to verify compliance with mitigation measures.	Prior to finalizing CEQA document	Authority
Rec #26- BIO-MM#61: Establish and Implement a Compliance Reporting Program	The Authority should specify that issues raised by agencies will be addressed immediately. All related construction and activities should be temporarily halted until the Project Biologist/Authority resolves agency concerns. The Authority should ensure that agency concerns are resolved.	Prior to finalizing CEQA document	Authority

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Rec #27- BIO-BIO-MM#76: Implement Wildlife Rescue Measures	The Authority should state what “guidelines” is being referenced.	Prior to finalizing CEQA document	Authority
Rec #28- Una Lake	The Authority should revise the EIR/EIS to clarify whether avoidance of Una Lake by 300 feet includes all Project components (i.e., double tracks, disturbance areas, staging areas, rights-of-way, drainage basins, roadways, and utility easements).	Prior to finalizing CEQA document	Authority
Rec #29- Alternatives	The Authority should consider CDFW’s comments and perform additional analyses prior to finalizing the EIR/EIS and selecting a preferred alternative.	Prior to finalizing CEQA document	Authority
Rec #30- Project Design Changes	The Authority should conduct additional environmental review if Project design features change from what was described in the EIR/EIS. The Authority should incorporate site-specific review and consultation before construction to verify the extent/magnitude of impacts and mitigation are consistent with the EIR/EIS analysis.	Prior to finalizing CEQA document/ submitting LSA Notification/ submitting CESA ITP Application	Authority
Rec #31- Mitigating for Impacts within Region	The Authority should generally mitigate impacts within Los Angeles County or CDFW Region 5 when feasible to ensure no net loss of biological resources within the area where the Project would occur.	Prior to/during Project construction	Authority
Rec #32-Site-Specific Surveys	The Authority should provide site-specific biological assessments to support any LSA Notifications and/or CESA take authorization applications required for the Project.	Prior to submitting LSA Notification/ submitting CESA ITP Application	Authority

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Rec #33- Use of Pre-Construction/ Modified Protocol Surveys	The Authority should implement a two-pronged survey approach that consists of protocol then pre-construction verification surveys at appropriate times for a given species.	Prior to submitting LSA Notification/ submitting CESA ITP Application	Authority
Rec #334 Reporting Data	The Authority should submit information on special-status species to the CNDDDB by completing and submitting CNDDDB Field Survey Forms . Information on special-status native plant populations and sensitive natural communities, the Combined Rapid Assessment and Relevé Form should be completed and submitted to CDFW's Vegetation Classification and Mapping Program.	Prior to finalizing CEQA document	Authority
Rec #35- Reporting Data	The Authority should revise the Project's proposed Biological Resources Mitigation Measures and condition the environmental document to include mitigation measures recommended in CDFW's letter.	Prior to finalizing CEQA document	Authority
Mitigation Measure #1- Impacts on Unarmored Threespine Stickleback- Revise BIO-MM#85	The Authority shall prevent access to the wetted channel by using temporary flagging, fencing, and signage. Methods used to prevent access shall not cause additional erosion and scouring, allow sediment and debris buildup, and impede fish passage. In addition, the Authority shall implement a buffer of 50 feet from the wetted channel in order to protect the wetted channel during Project construction and activities adjacent to UTS.	Prior to finalizing CEQA document Prior to/during ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #2- Impacts on Unarmored Threespine Stickleback-	The Authority shall specify what actions would be taken if water quality is being affected by bridge and bank stabilization-related concrete pouring activities. The Authority shall require monitoring reports be submitted monthly or as directed to CDFW. A report shall provide any fish mortalities observed due to poor water quality, water quality data, and any actions implemented in response to water quality issues.	Prior to finalizing CEQA document	Authority

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Revise BIO-MM#87		During ground-disturbing activities	
Mitigation Measure #3- Impacts on Unarmored Threespine Stickleback- Revise BIO-MM#88, 89, and 92	The Authority shall implement a 50-foot buffer in order to protect the wetted channel during Project construction and activities adjacent to UTS.	Prior to finalizing CEQA document Prior to ground-disturbing activities	Authority
Mitigation Measure #4- Impacts on Unarmored Threespine Stickleback-	The Authority shall require that a Construction Groundwater Dewatering Plan be submitted to CDFW for review, and that all CDFW's comments are resolved and addressed prior to finalizing and implementing a Construction Groundwater Dewatering Plan. The Construction Groundwater Dewatering Plan shall specify the following at a minimum: 1) a biological monitor shall monitor any dewatering effects on the wetted channel, 2) a biological monitor shall have authority to halt dewatering operations; 3) what effects would warrant halting dewatering operations, and 4) response actions in the event of negative impacts on the wetted channel, which shall include consultation with CDFW, revising the Construction Groundwater Dewatering Plan as appropriate, limiting the extent of excavation dewatering, or suspending construction until such time as regional groundwater conditions are more favorable for the construction to proceed.	Prior to finalizing CEQA document Prior to ground-disturbing activities	Authority
Mitigation Measure #5- Impacts on Mountain Lion and Wildlife Connectivity-	The Authority shall require wildlife crossings be constructed. The Authority shall require crossings to be constructed south of the California Aqueduct; east of Una Lake; and under State Route 14 to connect both sides of the San Gabriel-Castaic Linkage. In addition, the Authority shall include a design that establishes specific criteria for monitoring the performance of the crossings	Prior to finalizing CEQA document Prior to ground-	Authority

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Revise BIO-MM#64	(viaducts, undercrossing, overcrossings) for routine and ongoing use by mountain lion and its prey.	disturbing activities During Project implementation	
Mitigation Measure #6- Impacts on Mountain Lion and Wildlife Connectivity- Revise BIO-MM#77 and 78	The Authority shall require the Project Biologist or contractor to obtain CDFW's review and approval of fencing and wildlife escape plans that ensure avoidance of take of mountain lion. If mountain lion could become entangled in fencing resulting in injury or death, the Authority shall obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081 subdivision (b).	Prior to finalizing CEQA document Prior to ground-disturbing activities	Authority
Mitigation Measure #7- Impacts on Mountain Lion and Wildlife Connectivity- Revise BIO-MM#96	If known or potential mountain lion dens are identified or observed during pre-construction surveys, mountain lion dens will be assumed to have kittens present until the Project Biologist can document that they are not present and/or that the den is not being used. A non-disturbance buffer of at least 1,970 feet will be established around the known or potential den until the Project Biologist can document and confirm that the den is not occupied. If the den is determined to be occupied, then project activities in the defined buffer area would need to halt for two (2) months and a re-survey conducted to determine if the female has abandoned the den and relocated the kittens. The Project Biologist and Authority shall immediately consult with CDFW upon detection of an active den. Construction may proceed if the Project Biologist determines that the den is not being used by mountain lions.	Prior to finalizing CEQA document Prior to/during ground-disturbing activities	Authority

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Mitigation Measure #8- Impacts on Mountain Lion and Wildlife Connectivity- Wildlife crossing and land acquisition	If SR14 or SR14A is the preferred alternative, the Authority shall consult with CDFW to identify wildlife crossing opportunities and/or opportunities for land acquisition within the San Gabriel-Castaic Linkage. Wildlife crossing opportunities shall be reviewed and approved by CDFW and incorporated into final design plans. In addition to or instead of wildlife crossings, the Authority shall acquire or fully fund the public acquisition of land within the San Gabriel-Castaic Linkage. The Authority shall consult and collaborate with CDFW to conserve areas beneficial to the Southern California/Central Coast ESU and SGSB subpopulation that may improve and maintain connectivity.	Prior to finalizing Project design plans Prior to ground-disturbing activities	Authority
Mitigation Measure #9- Impacts on Mountain Lion and Wildlife Connectivity- Compensatory mitigation	The Authority shall protect mitigation lands in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands. The Authority shall provide an appropriate endowment shall be provided for the long-term management of mitigation lands. A conservation easement and endowment funds s shall be fully acquired, established, transferred, or otherwise executed by the Authority prior to any Project-related ground-disturbing activities.	Prior to ground-disturbing activities	Authority
Mitigation Measure #10- Impacts on Mountain Lion and Wildlife Connectivity- Mountain Lion Crossing Monitoring Plan	The Authority shall prepare and implement a Mountain Lion Crossing Monitoring Plan. The Authority shall consult with CDFW during the drafting of the Monitoring Plan and obtain approval of the Monitoring Plan prior to Project implementation. The Monitoring Plan shall be contingent with action-based monitoring performance objectives and be adaptive. Goals of the Monitoring Plan shall at a minimum: 1) provide data to assist in designing crossings and inform placement for future HSR segments in southern California; 2) conduct long-term population monitoring for use by the mountain lion subpopulations; 3) track progress of use; and 4) evaluate overall effectiveness of the crossings.	Prior to ground-disturbing activities	Authority

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Mitigation Measure #11- Impacts on Mountain Lion and Wildlife Connectivity- Mountain Lion Avoidance Plan	In the event that mountain lion or dens are detected during surveys per BIO-MM#96, the Authority shall prepare Mountain Lion Avoidance Plan. The avoidance plan, at a minimum, shall fully avoid nursery sites, dens, and kill sites. The Authority shall submit a Mountain Lion Avoidance Plan to CDFW for review. The Authority shall resolve CDFW's comments prior to finalizing and implementing a Mountain Lion Avoidance Plan. A Mountain Lion Avoidance plan shall be developed before construction may proceed.	Prior to finalizing and implementing a Mountain Lion Avoidance Plan Before Project ground-disturbing activities can proceed	Authority
Mitigation Measure #12- Impacts on Mountain Lion and Wildlife Connectivity- Mountain Lion Avoidance Plan	If avoidance is not feasible, the Authority shall obtain appropriate take authorization from CDFW pursuant to Fish & Game Code section 2081 subdivision (b) prior to any ground-disturbing activities.	Prior to ground-disturbing activities	Authority
Mitigation Measure #13- Impacts on Mountain Lion and Wildlife Connectivity- Buffer	During construction, the Authority shall maintain a ¼ mile buffer from movement corridors such as drainages and riparian areas to minimize impacts to mountain lion. No night work shall occur in drainages and riparian areas and areas within the ¼ mile buffer. Within the Santa Clara River, the Authority shall maintain a 50-foot buffer as prescribed under Mitigation Measure #3.	During Project construction	Authority

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Mitigation Measure #14- Impacts on Aquatic Resources- Revise BIO-MM#33, 34, and 47	The Authority shall include aquatic resources subject to Fish and Game Code section 1602.	Prior to finalizing CEQA document Prior to/during ground-disturbing activities	Authority
Mitigation Measure #15- Impacts on Aquatic Resources- Revise HWR-MM#4	Resource agencies and stakeholders shall be consulted in preparation of a Water Resources Adaptive Management and Monitoring Plan. The Authority shall convene a working group to prepare a Water Resources Adaptive Management and Monitoring Plan. The Authority shall resolve all resource agency and stakeholder comments and concerns prior to finalizing the document.	Prior to finalizing a Water Resources Adaptive Management and Monitoring Plan Prior to ground-disturbing activities	Authority
Mitigation Measure #16- Impacts on Aquatic Resources- Lake and Streambed Alteration Notification	The Authority shall notify CDFW pursuant to Fish and Game Code section 1602 for construction and activities occurring near or impacting streams and associated natural communities. The Authority shall notify CDFW prior to any ground-disturbing activities and vegetation removal, including staging, near streams. The notification to CDFW shall provide the following information: 1) A stream delineation in accordance with the U.S. Fish and Wildlife Service wetland definition adopted by CDFW; 2) Linear feet and/or acreage of streams and associated natural communities that would be permanently and/or	Prior to any ground-disturbing activities and vegetation removal near or impacting streams and associated natural communities	Authority

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	temporarily impacted by the Project. This includes impacts as a result of routine maintenance and fuel modification. Plant community names shall be provided based on vegetation association and/or alliance per the Manual of California Vegetation; 3) A discussion as to whether impacts on streams within the Project site would impact those streams immediately outside of the Project site where there is hydrologic connectivity. Potential impacts such as changes to drainage pattern, runoff, and sedimentation shall be discussed; and, 4) A hydrological evaluation of the 100-year storm event to provide information on how water and sediment is conveyed through the Project site. Additionally, the hydrological evaluation shall assess a sufficient range of storm events (e.g., 100, 50, 25, 10, 5, and 2-year frequency storm events) to evaluate water and sediment transport under pre-Project and post-Project conditions.		
Mitigation Measure #17- Impacts on Aquatic Resources- Lake and Streambed Alteration Agreement	If the Project would impact streams and associated natural communities, the Authority shall obtain an LSA Agreement prior to any ground-disturbing activities and vegetation removal, including staging, near streams.	Prior to any ground-disturbing activities and vegetation removal, including staging, near streams	Authority
Mitigation Measure #18- Impacts on Western Joshua Tree-Avoidance	The Authority shall fully avoid impacts on western Joshua trees. The Authority shall implement a minimum 300-foot buffer. Temporary protective fencing and signage shall be installed to demarcate the 300-foot buffer. No work or access shall occur within the buffer. The temporary fencing shall be removed only after all Project construction is complete.	Prior to ground-disturbing activities and vegetation removal	Authority

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		During Project construction	
Mitigation Measure #19- Impacts on Western Joshua Tree-CESA Incidental Take Permit	If the Authority is unable to avoid impacts on western Joshua tree, the Authority shall obtain take authorization from CDFW [pursuant to Fish & Game Code, § 2082(b)]. The Authority shall submit a CESA ITP Application to CDFW that provides the following information (at a minimum): 1) An analysis of individual western Joshua trees (clonal and non-clonal) and western Joshua tree seedbank that would be impacted both within the Project site and within 300 feet of the Project site; 2) An analysis of the acres of natural communities supporting western Joshua trees that would be impacted both within the Project site and within 300 feet of the Project site provided according to alliance and/or association-based natural community names. The Manual of California Vegetation shall be used to inform this mapping and assessment as well as CDFW's Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Sensitive Natural Communities; 3) A map of the Project's site plan overlaid on location of western Joshua trees and natural communities; and 4) A hydrologic analysis of how water would be transported across the Project site and adjacent areas after Project build-out.	Prior to ground-disturbing activities and vegetation removal	Authority

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Mitigation Measure #20- Impacts on Western Joshua Tree- Compensatory Mitigation	The Authority shall provide compensatory mitigation for the Project's impact on western Joshua trees at no less than 2:1 or as required in a CESA ITP for western Joshua trees issued by CDFW. Mitigation lands shall be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands. An appropriate non-wasting endowment shall be provided for the long-term management of mitigation lands. A conservation easement and endowment funds shall be fully acquired, established, transferred, or otherwise executed by the Authority prior to any Project-related ground-disturbing activities.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #21- Impacts on Crotch Bumble Bee-Pre-construction surveys	Prior to any ground disturbance, the Authority shall conduct site-specific surveys for Crotch bumble bee in accordance with any Crotch bumble bee survey protocol provided by CDFW.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #22- Impacts on Crotch Bumble Bee-Avoid impacts	Inactive small mammal burrows and thatched/bunch grasses shall be avoided whenever feasible. If an inactive burrow may be disturbed by Project activities, it shall be resurveyed for Crotch bumble bee presence within seven (7) days prior to the scheduled disturbance.	Prior to/during ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #23- Impacts on Crotch Bumble Bee-Avoid impacts	If Crotch bumble bee is present, the qualified biologist shall identify the location of all nests in or adjacent to the Project site. If nests are identified, 15-meter no disturbance buffer zones shall be established around nests to reduce the risk of disturbance or accidental take. If Project activities may result in disturbance or potential take, the qualified biologist, in coordination with CDFW, shall expand the buffer zone as necessary to prevent disturbance or take.	Prior to/during ground-disturbing activities and vegetation removal	Authority

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Mitigation Measure #24- Impacts on Crotch Bumble Bee-CESA Incidental Take Permit	If “take” or adverse impacts to Crotch bumble bee cannot be avoided either during Project activities or over the life of the Project, Authority shall obtain appropriate take authorization from CDFW pursuant to Fish and Game Code section 2081(b).	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #25- Impacts on Crotch Bumble Bee- Compensatory mitigation	Any floral resource associated with Crotch bumble bee that will be removed or damaged by the Project shall be replaced at no less than 1:1. Floral resources shall be replaced as close to their original location as is feasible. If active Crotch bumble bee nests have been identified and floral resources cannot be replaced within 200 meters of their original location, floral resources shall be planted in the most centrally available location relative to identified nests. This location shall be no more than 1.5 kilometers from any identified nest. Replaced floral resources may be split into multiple patches to meet distance requirements for multiple nests. These floral resources shall be maintained in perpetuity and shall be replanted and managed as needed to ensure the habitat is preserved.	Prior to/during ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #26- Impacts on Monarch Butterfly- Revise BIO-MM#94	The Authority shall contact CDFW and USFWS when Project Biologists observe monarchs in hostplant habitat. In addition, the Authority shall specify a minimum 50-foot avoidance buffer from milkweed where monarch butterflies are present.	Prior to/during ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #27- Impacts on Monarch Butterfly- Revise BIO-MM#95	The Authority shall provide no less than 2:1 compensatory mitigation for occupied breeding and foraging habitat.	Prior to/during ground-disturbing activities and vegetation removal	Authority

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Mitigation Measure #28- Impacts on Monarch Butterfly- Monarch Overwintering Habitat Assessment	The Authority shall retain a qualified biologist to conduct a site-specific overwintering habitat assessment prior to starting ground-disturbing activities. The qualified biologist shall assess overwintering habitat following the Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat or other protocols with prior approval by USFWS and CDFW. A summary report shall be submitted to USFWS and CDFW prior to ground disturbance.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #29- Impacts on Monarch Butterfly- Monarch Overwintering Habitat Avoidance	A qualified biologist shall identify primary roosting trees and other structural components or flora integral to maintaining microclimate conditions at overwintering habitat. These plants shall be marked prior to starting ground-disturbing activities. Overwintering habitat shall be avoided for the duration of the Project. A qualified biologist shall assess overwintering habitat and remark/delineate overwintering habitat as needed for the duration of the Project following the Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat .	Prior to ground-disturbing activities and vegetation removal During Project construction	Authority
Mitigation Measure #30- Impacts on Monarch Butterfly- Monarch Overwintering Monarch Survey	Prior to starting Project ground-disturbing activities and vegetation removal during the overwintering period of September 15 through March 15, a qualified biologist shall conduct multiple surveys for overwintering monarchs where overwintering habitat has been identified. Monitoring shall be done as frequently as possible during the overwintering season to capture changing distributions through the season and in response to storm events.	Prior to ground-disturbing activities and vegetation removal during the overwintering period of September 15 through March 15	Authority

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Mitigation Measure #31- Impacts on Monarch Butterfly- Monarch Impact Avoidance	If overwintering monarchs are present, the Authority shall avoid all Project construction and activities within 100 feet of the overwintering monarchs. The Authority shall immediately consult with CDFW and USFWS to determine if additional measures may be required including increasing avoidance buffers. Project construction and activities may only start after all overwintering monarchs have departed the overwintering site as determined by a qualified biologist.	Prior to/during Project construction and activities	Authority
Mitigation Measure #32- Impacts on Monarch Butterfly- Overwintering Habitat Preservation	The Authority shall preserve overwintering habitat. If the Authority must remove or disturb overwintering habitat and other structural components or flora integral to maintaining microclimate conditions, the Authority shall immediately coordinate with CDFW and USFWS prior to starting any activities that may impact overwintering habitat. The Authority shall provide no less than 2:1 compensatory mitigation to offset impacts on overwintering habitat.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #33- Impacts on Monarch Butterfly- Overwintering Habitat Management	During Project construction, operation, and maintenance, the Authority shall avoid or minimize the cutting or trimming of trees and vegetation within core overwintering habitat except for specific grove management purposes, and/or human health and safety purposes. Any management activities in overwintering habitat shall be conducted between March 16 and September 14 in coordination with a qualified biologist. The Authority shall consider overwintering habitat management recommendation provided by the USFWS in Western Monarch Butterfly Conservation Recommendations .	During Project construction, operation, and maintenance	Authority
Mitigation Measure #34- Impacts on Monarch Butterfly- Avoid Pesticide Use	During Project construction, operation, and maintenance, the Authority shall avoid or minimize the use of pesticides within one mile of overwintering groves, particularly when monarchs may be present. Non-chemical weed control techniques shall be used when possible. If pesticides are used, applications shall be conducted from March 16 through September 14, when possible. Whenever possible, targeted application herbicide methods shall be used, large-scale broadcast applications shall be avoided, and	During Project construction, operation, and maintenance	Authority

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	precautions shall be taken to limit off-site movement of herbicides (e.g., drift from wind and discharge from surface water flows).		
Mitigation Measure #35- Impacts on Special-Status Species of Amphibians- Revise BIO-MM#7	The Authority shall implement survey protocols to adequately detect special-status amphibian species during pre-construction surveys, including protocols found CDFW's Survey and Monitoring Protocols and Guidelines and USFWS's Survey Protocols and Guidelines webpages for survey protocols.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #36- Impacts on Special-Status Species of Amphibians- Compensatory Mitigation	The Authority shall provide compensatory mitigation for loss of amphibian habitat. For each amphibian species, the Authority shall provide criteria for selecting mitigation lands appropriate for amphibians, including both pond and upland habitat; mitigation land performance criteria; a plan to monitor success of mitigation, including relocation of individuals from impact area to mitigation land; and contingency measures if mitigation does not meet performance criteria.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #37- Impacts on Special-Status Species of Amphibians- Daily construction activity monitoring	During initial ground-disturbing activities, a qualified biologist shall conduct construction activity monitoring daily for arroyo toad (August 1 to March 31), western spadefoot (October 1 to May 31), California red-legged frog (November 1 to March 31), and southern mountain yellow-legged frog (March 1 to May 31).	Daily, during initial ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #38- Impacts on Special-Status Species of Amphibians-	A qualified biologist shall prepare an Amphibian Relocation and Avoidance Plan. The Amphibian Relocation and Avoidance Plan shall describe proper avoidance, handling, and relocation protocols for each species that could occur on the Project-site. The Amphibian Relocation and Avoidance Plan shall include species-specific avoidance buffers and suitable relocation areas at least	Prior to ground-disturbing activities and vegetation removal	Authority

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Daily construction activity monitoring	200 feet outside of the Project site. The qualified biologist shall submit a copy of an Amphibian Relocation and Avoidance Plan to CDFW for approval prior to any clearing, grading, or excavation work on the Project site.		
Mitigation Measure #39- Impacts on Special-Status Species of Amphibians- Take Authorization	If the Authority must relocate CESA- or ESA-listed species, the Authority shall obtain appropriate take authorization from CDFW and/or USFWS.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #40- Impacts on Special-Status Species of Amphibians- Take Authorization	If the Authority must relocate Species of Special Concern, only a qualified biologist with appropriate handling permits shall capture, temporarily possess, and relocate wildlife. The qualified biologist shall obtain or have appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities.	Prior to/during ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #41- Impacts on Special-Status Species of Amphibians- Compensatory Mitigation	To compensate for permanent loss of habitat, the Authority shall provide no less than 2:1 to offset impacts, or as required in a take permit authorized by USFWS for ESA-listed species or CDFW for CESA-listed species.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #42- Impacts on Western Pond Turtle-Surveys	Surveys for western pond turtle shall following established protocols including Draft USFWS Western Pond Turtle Visual Survey Protocol for the Southcoast Ecoregion .	Prior to ground-disturbing activities and vegetation removal	Authority

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Mitigation Measure #43- Impacts on Western Pond Turtle- Compensatory Mitigation	The Authority shall provide compensatory mitigation for loss of western pond turtle habitat. For each amphibian species, the Authority shall provide criteria for selecting mitigation lands appropriate for western pond, including both pond and upland habitat; mitigation land performance criteria; a plan to monitor success of mitigation; and contingency measures if mitigation does not meet performance criteria.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #44- Impacts on Western Pond Turtle- No-disturbance buffer	During the western pond turtle breeding season, a no-disturbance buffer of 475 feet shall be implemented to protect nesting area. This distance shall be measured from the outside edge of wetland habitat suitable for the species within the Project site. No work shall occur until after the breeding season.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #45- Impacts on Western Pond Turtle-Relocate out of harm's way	Outside of the breeding season, if the Authority must relocate western pond turtles, a qualified biologist shall prepare a Western Pond Turtle Relocation Plan. The qualified biologist shall submit a copy of a Western Pond Turtle Relocation Plan to CDFW for approval prior to any clearing, grading, or excavation work on the Project site. The Western Pond Turtle Relocation Plan shall identify that only a qualified biologist with appropriate handling permits shall capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #46- Impacts on Burrowing Owl- No-disturbance buffer	The Authority shall implement a no-disturbance buffer of 1,650 feet to avoid impacts on occupied burrowing owl burrows during the nesting and non-nesting seasons.	Prior to/during ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #47- Impacts on Burrowing Owl-	The Authority shall provide compensatory mitigation for loss of burrowing owl habitat. The Authority shall provide criteria for selecting mitigation lands appropriate for burrowing owl; mitigation land performance criteria; a plan to monitor success of mitigation;	Prior to ground-disturbing activities and	Authority

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Compensatory mitigation	and contingency measures if mitigation does not meet performance criteria.	vegetation removal	
Mitigation Measure #48- Impacts Bats- Surveys	The Authority shall conduct site-specific field surveys to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. The Authority shall conduct bat surveys during favorable weather conditions only Two spring surveys (April through June) and two winter surveys (November through January) shall be performed by qualified biologists. 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.	Prior to Project ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #49- Impacts Bats- No-work buffer	If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during pre-construction surveys, for maternity roosts, Project construction will only between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30). 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	Prior to/during Project ground-disturbing activities and vegetation removal	Authority

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	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 Project 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.		
Mitigation Measure #49- Impacts Bats- No-work buffer	The Authority shall compensate no less than 2:1 for permanent impacts to roosting habitat.	Prior to ground-disturbing activities and vegetation removal	Authority
Mitigation Measure #50- Impacts on Special-Status Plants and Sensitive Natural Communities- Revise BIO-MM#1	The Authority shall provide requirements that would effectively avoid impacts on special-status plants and Sensitive Natural Communities if those resources are present.	Prior to finalizing CEQA document Prior to/during Project ground-disturbing activities and vegetation removal	Authority

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Mitigation Measure #52- Impacts on Special-Status Plants and Sensitive Natural Communities- Revise BIO-MM#2	The Authority shall provide minimum requirements for ensuring that plant salvage and relocation would be successful. The Authority shall at a minimum: • Relocate plants to areas where there would be no impact on in-situ populations of rare, endangered, or threatened plants; • Provide at least five (5) years of monitoring; • Provide a supplemental watering plan; • Provide a weed management plan; • Ensure that relocated plants are self-sustaining, with at least two (2) years of no supplemental watering; • Achieve zero percent cover of non-native, invasive species listed as High or Moderate by the California Invasive Plant Council; and • Provide contingency measures if relocation fails.	Prior to finalizing CEQA document Prior to/during/after Project construction and activities	Authority
Mitigation Measure #53- Impacts on Special-Status Plants and Sensitive Natural Communities- Revise BIO-MM#38	The Authority shall provide no less than 2:1 ratio to offset direct impacts on ESA and CESA-listed species unless a higher ratio is required pursuant to regulatory authorizations.	Prior to finalizing CEQA document Prior to ground-disturbing activities and vegetation removal	Authority