

State of California – Natural Resources Agency

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July 23, 2020

Governor's Office of Planning & Research

Mr. Mark McLoughlin
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Jul 23 2020

STATE CLEARINGHOUSE

Subject: Draft Environmental Impact Report/Environmental Impact Statement for California High-Speed Rail, Burbank to Los Angeles Segment Project, Los Angeles County (SCH# 2014071073)

Dear Mr. McLoughlin:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the Burbank to Los Angeles Segment of California High-Speed Rail (Project) prepared by the California High-Speed Rail Authority (CHSRA) as lead agency pursuant to the California Environmental Quality Act (CEQA; Public Resources Code 21000 § et seq.). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. We also appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW is mandated to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the state [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; 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 directed to provide biological expertise to lead agencies as part of environmental review, focusing on project activities that have the potential to adversely affect state fish and wildlife resources.

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

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Project Description and Summary

Objective: CHSRA proposes to construct and operate the Burbank to Los Angeles Segment of the California High-Speed Rail (HSR) system. The proposed Project is approximately 14 miles long, crossing the cities of Burbank, Glendale, and Los Angeles in a fully urbanized area within existing railroad corridor that crosses major streets and highways and, in some portions, is adjacent to the Los Angeles River. The Project includes a combination of at-grade, below-grade, and retained-fill tracks with the majority consisting of new tracks that would be placed along the existing railroad right-of-way (ROW) and be useable for HSR and other passenger rail operators. The alignment would cross one major stream, Verdugo Wash, where an existing clear-span railroad bridge would be rebuilt to accommodate an additional set of electrified tracks for HSR.

Location: The Project would begin underground at the Burbank Airport Station and consist of two new electrified tracks. The alignment would travel southeast through Burbank and Glendale, where it would cross the Verdugo Wash just east of the confluence with the Los Angeles River. Upon crossing the Verdugo Wash, the Project continues southeast along the east side of Los Angeles River through the Glendale Metrolink Station and Metrolink Central Maintenance Facility. After passing the Metrolink Central Maintenance Facility, the alignment turns south and crosses the Arroyo Seco on an existing railroad bridge. South of Arroyo Seco, the alignment would cross the Los Angeles River on the existing Mission Tower bridge just north of Figueroa Street. The alignment then proceeds south along the west side of the Los Angeles River until it reaches its terminus at Los Angeles Union Station.

Comments and Recommendations

CDFW offers the comments and recommendations below to assist CHSRA in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. For any impacts that have been adequately demonstrated to be unavoidable in the EIR/EIS, CDFW believes that CHSRA should require a scientifically rigorous monitoring and management program as part of the Project's CEQA Mitigation, Monitoring and Reporting Program (MMRP) that would include adaptive management strategies (Public Resources Code 21081.6 and CEQA Guidelines Section 15097).

Project Description and Related Impact Shortcomings

Comment #1: Impacts to Streams

Issue: The proposed Project has the potential to impact multiple streams that are subject to notification under Fish and Game code section 1600 *et seq.* Page 3.7-51 states “[c]onstruction of the project would result in direct and indirect effects on aquatic resources, including aquatic resources under the jurisdiction of CDFW, USACE, and SWRCB. The HSR build Alternative would require crossings, realignments, and modifications to likely jurisdictional watercourses or waterbodies. The HSR Build Alternatives includes project components that would cross or alter the Burbank Western Channel, Lockheed Channel, Verdugo Wash, and Los Angeles River.”

Specific impacts to Lockheed Channel: According to page 3.7-53 of the DEIR/EIS, “[c]ollectively, 2.05 acres of temporary effects on aquatic resources associated with modifying and realigning the Lockheed Channel would occur under the HSR Build Alternative.” The Lockheed channel would see impacts in two locations as a result of realignment activities. Page

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3.8-51 of the DEIR/EIS states that “[t]he upstream realignment would be between Avon Street and Lima Street. At this location, the HSR tracks would be constructed through the use of cut-and-cover. The alignment of the Lockheed Channel would be in approximately the same location as existing conditions; however, construction of a new box culvert would be required where the HSR tracks cross Lockheed Channel.”

Project activities for this component of the HSR alignment will involve dewatering, use of heavy equipment directly in Lockheed Channel, the placement of fill, and the installation of a concrete box culvert. All these Project activities may result in the loss of streams associated watershed function and biological diversity through diminished on-site and downstream water quality.

Specific impacts to Lockheed Channel and Burbank Western Channel Confluence: As indicated on page 3.8-51 of the DEIR/EIS, “[t]he downstream realignment would take place between Lincoln Street and the channel’s confluence with the Burbank Western Channel... Therefore, the Lockheed Channel crossing would be relocated to the east, where the proposed HSR tracks would be built above ground level.” Project activities for this component of the HSR alignment will involve dewatering, use of heavy equipment directly in Lockheed Channel and Burbank Western Channel, placement of fill materials, and creation of a new stretch of stream resulting in the complete realignment of flows in the Burbank Western Channel.

Specific Impacts to Verdugo Wash: The HSR Build Alternative includes the replacement of a clear-span bridge with a wider clear-span bridge over Verdugo Wash, just east of the confluence with the Los Angeles River. While the intended design of the bridge is to span the entirety of Verdugo Wash, there is still potential for impacts to the river and habitat located below. Page 3.7-52 indicates that during the demolition and removal of the currently existing bridge over Verdugo Wash and subsequent construction of the new Verdugo Wash Span, “[d]irect temporary effects on aquatic resources would result from the temporary placement of fill during construction in and over aquatic resources or falling debris from bridge and channel modifications (e.g., relocating culverts) and construction... The temporary fill and fallen debris would result in a temporary reduction of channel capacity; potential effects on the physical, chemical, and biological characteristics of aquatic substrates and food webs; and, a potential increase in erosion and sediment transport into adjacent aquatic areas. Chemical spills or leaks of fuel, transmission fluid, lubricating oil, or motor oil from construction equipment could also contaminate waters and degrade their quality.” CDFW concurs that all these Project activities may result in the loss of streams associated watershed function and biological diversity through loss of habitat or diminished on-site and downstream water quality.

Specific impacts to Los Angeles River: The HSR Build Alternative is expected to have significant direct and indirect impacts to the Los Angeles River. As stated on page 3.7-54, the Project “is expected to result in the discharge of less than 0.5 acre of permanent fill into waters of the U.S.” at the proposed Main Street roadway bridge. Because the Main Street roadway bridge is considered historic, project construction will not remove the bridge, but upgrade existing conditions. The proposed upgrade will result in direct permanent impacts to the Los Angeles River. The proposed Main Street Bridge would have one row of three 8-foot-diameter columns (with 10-foot-diameter bases) with a pier wall within the Los Angeles River and another row of three 8-foot-diameter columns on the west side of the concrete channel. This project component would result in 0.028 acre of new permanent fill (i.e., concrete columns with a pier wall) within a fully concrete-lined portion of the Los Angeles River. CDFW concurs that these

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Project activities may result in the loss of streams associated watershed function and biological diversity through loss of habitat or diminished on-site and downstream water quality.

Why Impacts Would Occur: Ground disturbing activities from water diversions and dewatering, structure demolition, fill placement, construction, and channel realignment would physically remove or otherwise alter existing streams or their function and associated riparian habitat on or near the Project site. Streams and associated biological resources beyond the Project development footprint may also be impacted by Project-related releases of materials, sediment, chemicals, pathogens, and altered watershed effects resulting from Project activities.

Evidence Impacts Would Be Significant: CDFW concurs with the analysis in the DEIR/EIS in Sections 3.7 and 3.8 that the Project may substantially adversely affect the existing stream hydrology through the alteration or diversion of the stream. Absent specific mitigation, these proposed activities could result in substantial erosion or siltation on- or off-site of the Project.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: CDFW has concluded that the Project may result in the alteration of streams. For any such activities, the Project applicant (or “entity”) must provide written notification to CDFW pursuant to Section 1600 *et seq.* of the Fish and Game Code. Based on this notification and other information, CDFW determines whether an LSA agreement with the applicant is required prior to conducting the proposed activities. A notification package for a LSA may be obtained by accessing CDFW’s web site at www.wildlife.ca.gov/habcon/1600.

CDFW’s issuance of an LSA 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 of the Lead Agency (CHSRA) for the Project. To minimize additional requirements by CDFW pursuant to Fish and Game Code, Section 1600 *et seq.* and/or under CEQA, the CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.

Mitigation Measure #2: Any LSA permit issued for the Project by CDFW may include additional measures protective of streambeds on and downstream of the Project. The LSA may include further erosion and pollution control measures. To compensate for any on-site and off-site impacts to riparian resources, additional mitigation conditioned in any LSA may include the following: avoidance of resources, on-site or off-site creation, enhancement or restoration, and/or protection and management of mitigation lands in perpetuity.

Comment #2: Impacts to Nesting Birds

Issue: Figure 3.7-2 (eBird Occurrence Records of Special-Status Bird Species) of the DEIR/EIS highlights the presence of numerous nesting bird species along the Project alignment. The greatest concentration of sensitive bird species is documented along the Los Angeles River, where stretches of habitat can be found along its soft-bottom portions. Figure 3.7-2 shows occurrences of loggerhead shrike (*Lanius ludovicianus*) and yellow warbler (*Setophaga petechial*), both CDFW Species of Special Concern (SSC), less than a mile from the Verdugo Wash Span and the Main Street Bridge.

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Specific Impacts: Construction during the breeding season for nesting birds could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The Project could also lead to the loss of foraging habitat for sensitive bird species.

Why Impact Would Occur: Impacts to nesting birds could result from vegetation clearing and other ground disturbing activities. Project disturbance activities could result in mortality or injury to nestlings, as well temporary or long-term loss of suitable nesting and foraging habitats. Construction during the breeding season for nesting birds could result in the incidental loss of reproductive success or otherwise lead to nest abandonment.

Direct impacts via habitat removal, noise, percussive vibration, human disturbance, channel diversion, sedimentation in the channel affecting food supply, increased exposure to predation, and direct take would reasonably occur during the Project. Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats (Sun and Narins 2005, Patricelli and Blickley 2006, Gillam and McCracken 2007, Slabbekoorn and Ripmeester 2008). Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cues (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise (Rabin et al. 2006, Quinn et al. 2017). Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011). The DEIR/EIS analyzed noise and vibration affects only to human-based sensitive receptors and without analyzing these impacts to sensitive wildlife species or providing any minimization or mitigation measures for impacts to sensitive species. Increased ambient lighting levels can increase predation risks and disorientation and disrupt normal behaviors in adjacent feeding, breeding, and roosting habitat (Longcore and Rich 2004, 2016).

Evidence Impact Would Be Significant: The loss of occupied habitat or reductions in the number of rare bird species, either directly or indirectly through nest abandonment or reproductive suppression, would constitute a significant impact absent appropriate mitigation. Furthermore, nests of all native bird species are protected under State laws and regulations, including Fish and Game Code sections 3503 and 3503.5. Section 15380 of the CEQA Guidelines indicates that Species of Special Concern (SSC) should be included in an analysis of project impacts. CDFW considers impacts to SSC a significant direct and cumulative adverse effect without implementing appropriate avoidance and/or mitigation measures. Take of SSC could require a mandatory finding of significance by the Lead Agency, (CEQA Guidelines, § 15065).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: To protect nesting birds that may occur on site, no construction shall occur from February 15 through August 31, and as early as January 1 for raptors.

Mitigation Measure #2: If construction during this period must occur, a qualified biologist shall complete a survey for nesting bird activity within the Project site and a 500-foot buffer. Surveys shall include vegetation in Caltrans Right of Way. Surveys will begin no more than 14 days prior to the start of Project activities and will be repeated for the duration of Project activities that occur during the bird nesting season. Nesting bird surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites.

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Mitigation Measure #3: If an active nest is found within 500 feet of Project activities and in areas with increased impacts resulting from noise disturbances, human activity, dust, vegetation clearing, ground disturbing activities (e.g., staging, access, excavation, grading), and vibrations caused by heavy equipment, a qualified biologist shall determine the nesting status and set up a species-appropriate no-work buffer that should be no less than 300 feet initially. Buffers shall be marked around the active nest site as directed by the qualified biologist.

No Project activities shall be allowed inside these buffers until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. These buffers shall be increased if needed to protect the nesting birds.

Mitigation Measure #4: Vegetation clearing and grubbing activities when birds are likely to be nesting shall be monitored by a qualified biologist and shall only occur when a qualified biologist is present to ensure that these activities remain within the Project footprint (i.e. outside the demarcated buffer) and that the flagging/stakes/fencing is being maintained, and to minimize the likelihood that active nests are abandoned or fail due to Project activities.

Comment #3: Impacts to Bats

Issue: CDFW has concerns that suggested bat mitigation measures related to pre-construction surveys may not be adequate to identify the presence or absence of bats along the Project alignment. BIO-MM#25 states that preconstruction surveys for bat species will be conducted “[n]o earlier than 30 days prior to the start of ground-disturbing activities in a work area” over the course of one (1) day and one (1) evening at a minimum.

Specific Impact: By potentially conducting only one (1) day and one (1) evening survey in the month prior to construction activities, the surveys may inaccurately reflect a lack of presence of multiple bat species that are known to be in the Project area. The proposed Project presents a variety of potential effects to species such as bats including (but not limited to) direct and indirect effects from loss of foraging habitat, loss of breeding habitat, direct mortality, increased anthropogenic pressures, and navigational disruptions during migration.

Why Impact Would Occur: Project impacts may result in substantial adverse effects, 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). Adverse impacts to bats may occur because the measures in the DEIR/EIS provided do not condition the Project to implement take avoidance surveys prior to operations, including (but not limited to) ground and vegetation disturbing activities.

Evidence Impacts Would Be Significant: Bats are considered non-game mammals and are afforded protection by State law from take and/or harassment, (Fish and Game Code, § 4150, California Code of Regulations, § 251.1). Several bat species are also considered SSC and meet the CEQA definition of rare, threatened or endangered species (CEQA Guidelines, §15065). Take of SSC could require a mandatory finding of significance by the Lead Agency, (CEQA Guidelines, § 15065).

Recommended Potentially Feasible Mitigation Measure(s):

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Mitigation Measure #1: The EIR/EIS should provide a thorough discussion of potential impacts to birds and bats from construction and operation of the Project to adequately disclose potential impacts and to identify appropriate avoidance and mitigation measures. The EIR/EIS should describe feasible measures which could minimize significant adverse impacts (CEQA Guidelines §15126.4[a][1]).

Mitigation Measure #2: Measures to mitigate for impacts to bats should include pre-construction surveys to detect species, use of bat roost installations, and preparation of a bat protection and relocation plan to be submitted to CDFW for approval prior to commencement of Project activities. CDFW recommends conducting pre-construction bat surveys for at least 3 or 4 months prior to ground disturbing activities to best capture an accurate representation of the on-site presence of bat species.

Mitigation Measure #3: For any Project activities that will result in the removal of trees, buildings or other occupied habitat for any species of bat, CDFW recommends avoidance of these areas. As previously described, take of special status bat species could require a mandatory finding of significance by the Lead Agency (CEQA Guidelines § 15065) and they are afforded protection by State law from take and/or harassment (Fish and Game Code § 4150, California Code of Regulations § 251.1).

CDFW recommends that if bats cannot be avoided by Project activities and a bat specialist determines that roosting bats may be present at any time of year, it is preferable to push any tree down using heavy machinery rather than felling the tree with a chainsaw. In order to ensure the optimum warning for any roosting bats that may still be present, the tree should be pushed lightly two to three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. The tree should then be pushed to the ground slowly. The bat specialist should determine the optimal time to disturb occupied bat habitat to maximize bats escaping during low light levels. Downed trees should remain in place until they are inspected by a bat specialist. Trees that are known to be bat roosts should not be sawn-up or mulched immediately. A period of at least 24 hours (preferably 48 hours) should elapse prior to such operations to allow bats to escape. Bats should be allowed to escape prior to demolition of buildings. This may be accomplished by placing one-way exclusionary devices into areas where bats are entering a building that allow bats to exit but not enter the building. In addition, CDFW recommends that the Project include measures to ensure that bat habitat remains available for evicted bats or loss of bat habitat resulting from the Project, including information on the availability of other potential roosts that could be used by bats within protected open space on or near the Project site.

Comment #4: Impacts to Least Bell's Vireo

Issue: According to the DEIR/EIS (page 47 of Section 3.7), “[c]onstruction activities may directly and indirectly affect special status bird species and migratory birds through the disturbance of potential nesting habitat. Habitat along the Los Angeles River is of greatest concern, where the occurrence of the listed least Bell’s vireo has been documented.” A review of California Natural Diversity Database (CNDDDB) indicates that there are recorded observations of least Bell’s vireo (*Vireo bellii pusillus*, “vireo”), a CESA-listed species, within one (1) mile west and south of the new Verdugo Wash Bridge in the Los Angeles River. Least Bell’s vireo is federally-listed pursuant to the Endangered Species Act (ESA)(16 U.S.C. § 1531 *et seq.*).

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Specific Impacts: Impacts to vireo could result from the loss of habitat as a result of diminished water levels or water quality. Riparian vegetation, such as willow riparian scrub, are reliant upon nearby water levels. If water levels are affected by the Project and/or is allowed to flow downstream, sensitive species such as vireo may experience a loss or degradation of habitat.

Why Impact Would Occur: Project activities could result in temporary or long-term loss of suitable nesting and foraging habitats. Construction during the breeding season of nesting birds could result in the incidental loss of breeding success or otherwise lead to nest abandonment.

Noise from road use, generators, and other equipment may disrupt vireo mating calls or songs, which could impact reproductive success (Patricelli and Blickley 2006, Halfwerk et al. 2011). Noise has been shown to reduce the density of nesting birds (Francis et al. 2009), and Bayne et al. (2008) found that songbird abundance and density was significantly reduced in areas with high levels of noise. Additionally, noise exceeding 70 dB(A) may affect feather and body growth of young birds (Kleist et al. 2018).

Artificial light may attract or disorient migrating vireo by disrupting navigation (Ogden 1996, Longcore and Rich 2004, 2016) and may also suppress their immune system (Moore and Siopes 2000). In addition, songbirds that live in areas with artificial light often begin morning choruses during night hours (Derrickson 1988, Miller 2006, Fuller et al. 2007), which may disrupt typical breeding behaviors.

Evidence Impact Would Be Significant: Consistent with the State CEQA Guidelines (Section 15380), the status of the Least Bell's vireo as a CESA- and ESA-listed endangered species qualifies it as an endangered, rare, or threatened species under CEQA.

Least Bell's vireo were abundant and widespread in the U.S. until the 1950s (Grinnell and Miller 1944). By the 1960s, they were considered scarce (Monson 1960), and by 1980, there were fewer than 50 pairs remaining (Edwards 1980), although this number had increased to 2,500 by 2004 (Kus and Whitfield 2005). The primary cause of decline for this species has been the loss and alteration of riparian woodland habitats (USFWS 2006).

Project impacts may result in substantial adverse effects, 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 USFWS. Adverse impacts to vireo may occur without implementing take avoidance surveys prior to operations, including, but not limited to, ground and vegetation disturbing activities.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: CDFW recommends conducting protocol surveys for least Bell's vireo and incorporating the results into the EIR. Prior to initiation of construction within or adjacent to suitable nesting habitat, a CDFW-approved biologist with experience surveying for and observing vireo should conduct pre-construction surveys in accordance with established protocols to establish use of nesting habitat. Surveys should be conducted within and adjacent to suitable habitat (where access allows) during the nesting season (generally March 15 to July 31). If a nesting vireo is found, no activity should occur within a 500-foot buffer of it until a qualified biologist determines, and CDFW confirms, that all chicks have fledged and are no longer reliant on the nest site.

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Mitigation Measure #2: If take of vireo would occur from Project construction or operation, CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code [e.g., Incidental Take Permit (ITP) or consistency determination]. CDFW may consider the Lead Agency's CEQA documentation for its CESA-related actions if it adequately analyzes/discloses impacts and mitigation to State-listed species. Additional documentation may be required as part of an ITP application for the Project for CDFW to adequately develop an accurate take analysis and identify measures that would fully mitigate for take of CESA-listed species.

Filing Fees

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by CHSRA 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 & Game Code, § 711.4; Pub. Resources Code, § 21089).

Conclusion

We appreciate the opportunity to comment on the Project to assist CHSRA in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any response that the CHSRA has to our comments and to receive notification of any forthcoming hearing date(s) for the Project [CEQA Guidelines; § 15073(e)]. If you have any questions or comments regarding this letter, please contact Andrew Valand, Environmental Scientist, at Andrew.Valand@wildlife.ca.gov or (562) 292-6821.

Sincerely,

DocuSigned by: 7/23/2020

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CDFW recommends the following language to be incorporated into the final environmental document for the Project:

Table 1. Mitigation Monitoring and Report Program (Public Resources Code 21081.6 and CEQA Guidelines Section 15097)

Biological Resources			
	Mitigation Measure	Timing	Responsible Party
MM-BIO-1: Notification for a Lake & Streambed Alteration Agreement	For activities resulting in the alteration of streams, the Project proponent shall provide written notification to CDFW pursuant to Section 1600 <i>et seq.</i> of the Fish and Game Code. To minimize additional requirements by CDFW pursuant to Fish and Game Code, Section 1600 <i>et seq.</i> and/or under CEQA, the CEQA document shall fully identify the potential impacts to the stream or riparian resources and shall provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.	Prior to construction	CHSRA
MM-BIO-2: Additional Measures in Lake & Streambed Alteration Agreements	To compensate for any on-site and off-site impacts to riparian resources, the Project proponent shall provide measures of avoidance of resources, on-site or off-site creation, enhancement or restoration, and/or protection and management of mitigation lands in perpetuity.	Prior to construction	CHSRA
MM-BIO-3: Nesting Bird Season	To protect nesting birds that may occur on site, no construction shall occur from February 15 through August 31, and as early as January 1 for raptors.	Prior to construction	CHSRA
MM-BIO-4: Nesting Bird Surveys	If construction during this period must occur, a qualified biologist shall complete a survey for nesting bird activity within the Project site and a 500-foot buffer. Surveys shall include vegetation in Caltrans Right of Way. Surveys will begin no more than 14 days prior to the start of Project activities and will be repeated for the duration of Project activities that occur during the bird nesting	Prior to construction	CHSRA

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	season. Nesting bird surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites.		
MM-BIO-5: Nesting Bird Buffers	<p>If an active nest is found within 500 feet of Project activities and in areas with increased impacts resulting from noise disturbances, human activity, dust, vegetation clearing, ground disturbing activities (e.g., staging, access, excavation, grading), and vibrations caused by heavy equipment, a qualified biologist shall determine the nesting status and set up a species-appropriate no-work buffer that should be no less than 300 feet initially. Buffers shall be marked around the active nest site as directed by the qualified biologist.</p> <p>No Project activities shall be allowed inside these buffers until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. These buffers shall be increased if needed to protect the nesting birds.</p>	Prior to construction	CHSRA
MM-BIO-6: Nesting Bird Season	Vegetation clearing and grubbing activities when birds are likely to be nesting shall be monitored by a qualified biologist and shall only occur when a qualified biologist is present to ensure that these activities remain within the Project footprint (i.e. outside the demarcated buffer) and that the flagging/stakes/fencing is being maintained, and to minimize the likelihood that active nests are abandoned or fail due to Project activities.	Prior to construction	CHSRA
MM-BIO-7: Bat Discussion	The final environmental document shall provide a thorough discussion of potential impacts to birds and bats from construction and operation of the Project to adequately disclose potential impacts and to identify appropriate avoidance and mitigation measures. The EIR/EIS shall describe feasible measures which could minimize significant adverse impacts (CEQA Guidelines §15126.4[a][1]).	Prior to construction	CHSRA

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MM-BIO-8: Bat Pre-Construction Surveys	<p>Measures to mitigate for impacts to bats should include pre-construction surveys to detect species, use of bat roost installations, and preparation of a bat protection and relocation plan to be submitted to CDFW for approval prior to commencement of Project activities. CDFW recommends conducting pre-construction bat surveys for at least 3 or 4 months prior to ground disturbing activities to best capture an accurate representation of the onsite presence of bat species.</p>	<p>Prior to construction</p>	<p>CHSRA</p>
MM-BIO-9: Bat Avoidance	<p>For any Project activities that will result in the removal of trees, buildings or other occupied habitat for any species of bat, CDFW recommends avoidance of these areas. If bats cannot be avoided by Project activities and a bat specialist determines that roosting bats may be present at any time of year, it is preferable to push any tree down using heavy machinery rather than felling the tree with a chainsaw. In order to ensure the optimum warning for any roosting bats that may still be present, the tree should be pushed lightly two to three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. The tree should then be pushed to the ground slowly. The bat specialist should determine the optimal time to disturb occupied bat habitat to maximize bats escaping during low light levels. Downed trees should remain in place until they are inspected by a bat specialist. Trees that are known to be bat roosts should not be sawn-up or mulched immediately. A period of at least 24 hours (preferably 48 hours) should elapse prior to such operations to allow bats to escape. Bats should be allowed to escape prior to demolition of buildings. This may be accomplished by placing one way exclusionary devices into areas where bats are entering a building that allow bats to exit but not enter the building. In addition, CDFW recommends that the Project include measures to ensure that bat habitat remains available for evicted bats or loss of bat habitat resulting from the Project, including information on the availability of other potential roosts that could be used by bats within protected open space on or near the Project site.</p>	<p>Prior to construction</p>	<p>CHSRA</p>

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<p>MM-BIO-10: Least Bell's Vireo Surveys</p>	<p>Prior to initiation of construction within or adjacent to suitable nesting habitat, a CDFW-approved biologist with experience surveying for and observing vireo shall conduct preconstruction surveys in accordance with established protocols to establish use of nesting habitat. Surveys shall be conducted within and adjacent to suitable habitat, where access allows, during the nesting season (generally March 15 to July 31). If a nesting vireo is found, no activity shall occur within a 500-foot buffer of the vireo until a qualified biologist determines and CDFW confirms that all chicks have fledged and are no longer reliant on the nest site.</p>	<p>Prior to construction</p>	<p>CHSRA</p>
<p>MM-BIO-11: Take of Least Bell's Vireo</p>	<p>If take of vireo would occur from Project construction or operation, CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code [e.g., Incidental Take Permit (ITP) or consistency determination]. CDFW may consider the Lead Agency's CEQA documentation for its CESA-related actions if it adequately analyzes/discloses impacts and mitigation to State-listed species. Additional documentation may be required as part of an ITP application for the Project for CDFW to adequately develop an accurate take analysis and identify measures that would fully mitigate for take of State-listed species.</p>	<p>Prior to construction</p>	<p>CHSRA</p>