

State of California  
Department of Fish and Wildlife



## Memorandum

Date: August 24, 2022

Governor's Office of Planning & Research

To: Jason Wilkinson  
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**Aug 24 2022**

**STATE CLEARINGHOUSE**

DocuSigned by:

*Erin Chappell*

From: Erin Chappell, Regional Manager  
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield CA 94534

Subject: Santa Cruz 1 Roadside Safety and Drainage System Improvement Project, Mitigated Negative Declaration, SCH No. 2022070450, Santa Cruz County

The California Department of Fish and Wildlife (CDFW) has reviewed the draft Mitigated Negative Declaration (MND) for Santa Cruz 1 Roadside Safety and Drainage System Improvement (Project), pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup> CDFW is submitting comments on the draft MND as a means to inform the California Department of Transportation (Caltrans) as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the proposed Project.

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

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) 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

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

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(CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code. Pursuant to our jurisdiction, CDFW has the following concerns, comments, and recommendations regarding the Project.

## **PROJECT LOCATION**

The Project will take place along State Route (SR) 1 in Santa Cruz County from post mile (PM) 8.2 to 26.0 in Santa Cruz County.

## **PROJECT DESCRIPTION**

Caltrans, as the lead agency proposes to improve 30 existing culverts, improve 47 roadside safety locations, rehabilitate 32 lighting elements, and install 12 Transportation Management System elements. Temporary access roads will be constructed for culvert construction due to steep slopes. Tree removal and pruning will be required at 9 culvert repair locations.

According to the draft MND, 117.6 square feet (0.003 acre) of waters of the U.S. and streambed will be permanently impacted, and 291.8 square feet (0.007 acre) will be temporarily impacted. A total of 57.4 square feet (less than 0.001 acre) of jurisdictional riparian habitat will be permanently impacted, and 91.1 square feet (0.003 acre) will be temporarily impacted. 35.3 square feet (0.001 acre) of jurisdictional wetlands will be temporarily impacted; no permanent impacts to wetlands will occur.

### **Drainage Culverts**

Culverts will be repaired and replaced via the cut and cover method, which is usually accomplished by digging a trench with an excavator. The trench width depends on the pipe diameter, and the depth and slope are determined by the engineer. Other drainage improvements include strategies such as: stabilizing the channels and reconstructing ditches, placing new pipes or replacing existing pipes, culvert invert paving, and joint repair.

Replacement of culverts will occur at PM's 9.37, 12.08, 12.08, 12.08, 12.08, 12.08, 13.59, 14, 14.77, 16.02, 17.18, 17.18, 17.62, 17.62, 17.71, 18.71, 19.35, 19.35, 20.41, 21.52, 21.78, 21.78, 23.45, 24.16, 24.9, 24.9, 25.16, 25.73, 25.73, 25.93 (Table 1.1 within the MND).

### **Roadside Worker Safety Improvements**

Improvements to roadside worker safety features include shoulder widening and beyond-the-gore paving at 47 locations within the Project limits. A gore is the section of land between an off-ramp or on-ramp of a highway or street. Roadway signs at gore paving areas would be installed using a post sleeve so that signs can be quickly

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replaced in the field. Shoulders and gore locations identified in the Project area are in poor condition or are not paved.

Gore paving locations include:

PM's 8.6,9.03, 9.03, 9.22, 9.45, 10.41, 10.41, 10.47, 10.55, 10.62, 10.67, 11.98,12.03, 12.24, 12.25, 13.23, 13.27, 13.38, 13.39, 13.52, 13.56, 13.59, 13.6, 13.61, 13.66, 13.71, 13.79, 14.74, 14.75, 14.77, 14.83, 14.83, 14.85, 14.94,15.66, 15.74, 15.8, 15.83, 15.9, 15.9,15.95, 17.1, 17.15, 17.15, 17.16, 17.28, and 17.34.

### **Lighting Improvements**

Replacements or new installations of light fixtures to illuminate roadways, interchanges, and on- and off-ramps would occur within the Project limits. The Project would make 32 lighting improvements at several interchanges along SR-1 and south of the San Lorenzo River. The changes would vary depending on each site condition and may include demolition or replacement of fixtures and/or foundations, and related excavation for new foundations, service cabinets and utility trenching. Associated conduits would also be replaced, which would result in rewiring the lighting system at each location. Lighting improvements will occur at PM's 8.35, 10.53, 13.62, 15.82, and 17.38. The majority of the lighting improvements will occur at PM 8.35.

### **Transportation Management System Improvements**

Technologies such as traffic monitoring stations, ramp meters, closed-circuit television cameras, changeable message signs, microwave vehicle detection systems, and count stations are used to collect and send traffic data to transportation management centers. At PM's 8.35, 9.01, 11.91, 13.53, 17.29, and 17.41, Census Loops will be installed. At 19.59, a Count Station will be installed.

A total of 12 new traffic census stations at the on- and off-ramps of SR-1 are proposed. This involves one count station and 11 census loops in the on- and off-ramps at six intersections along SR-1. The count station work would install a new telephone demarcation cabinet and provide commercial power; the census loop work would install a vehicle detector sensor, conduit, and pull boxes.

## **REGULATORY AUTHORITY**

### **Lake and Streambed Alteration Agreement**

The Project has the potential to impact stream resources including mainstems, tributaries, drainages and floodplains associated with various aquatic resource types within the Biological Study Area (BSA) including but not limited to Harkins Slough, Struve Slough, Watsonville Slough, and the Pajaro River. If work is proposed that will impact the bed, bank, channel or riparian habitat, including the trimming or removal of

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trees and riparian vegetation, please be advised that the proposed Project may be subject to LSA notification. CDFW requires an LSA notification, pursuant to Fish and Game Code § 1600 et. seq., for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, bank or channel or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are generally subject to notification requirements.

### **Fish and Game Code § 5901**

Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, 1<sup>3/8</sup>, 1<sup>1/2</sup>, 1<sup>7/8</sup>, 2, 2<sup>1/4</sup>, 2<sup>1/2</sup>, 2<sup>3/4</sup>, 3, 3<sup>1/2</sup>, 4, 4<sup>1/8</sup>, 4<sup>1/2</sup>, 4<sup>3/4</sup>, 11, 12, 13, 23, and 25, any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined as a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals (Fish and Game Code § 45).

### **California Endangered Species Act**

Please be advised that a CESA Permit must be obtained if the Project has the potential to result in “take” of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (CEQA Guidelines §§ 21001 subd. (c), 21083, 15380, 15064 and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency’s FOC does not eliminate the Project proponent’s obligation to comply with Fish and Game Code, § 2080. More information on the CESA permitting process can be found on the CDFW website at <https://www.wildlife.ca.gov/Conservation/CESA>.

### **Fully Protected Species**

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 and relocation of a fully protected bird species for the protection of livestock. Take of any fully protected species is prohibited, and CDFW cannot authorize their take in association with a general project except under the provisions of a Natural Communities Conservation Plan (NCCP), 2081.7 or a Memorandum of Understanding for scientific research purposes. “Scientific Research” does not include an action taken

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as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.

## **COMMENTS AND RECOMMENDATIONS**

CDFW would like to thank Caltrans for preparing the draft MND. CDFW offers the following comments and recommendations to assist Caltrans in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on biological resources. CDFW recommends the avoidance, minimization and minimization measures provided below be imposed as conditions of Project approval by the lead agency, to ensure all Project-related impacts are reduced below a level of significance under CEQA.

### **COMMENT 1: Project Design Analysis and Coordination**

**Issue:** CEQA Guidelines §15126.4 (a) requires lead agencies to consider feasible mitigation measures to avoid or substantially reduce a project's significant environmental impacts. The MND does not sufficiently disclose or analyze potentially significant impacts to some fish and wildlife resources. In addition, the MND notes that unidentified culverts may also be modified as a result of Project completion. Site-specific locations should be identified to ensure impacts to fish and wildlife resources can be fully described, culverts are designed to meet the flow capacity of a given system, protect fish passage in fish bearing systems and to ensure potential wildlife barriers are remediated to terrestrial connectivity.

**Recommendation:** The updated MND should disclose and analyze potentially significant impacts to fish and wildlife at all potential locations where Project work may occur.

**Recommendation 1 – Design Coordination:** Early coordination with Habitat Conservation and the CDFW Conservation Engineering Branch is recommended to provide review and analysis of any proposed structures or Project elements with the potential to impact fish and wildlife resources. CDFW Conservation Engineering Branch should be provided engineered drawings and design specification planning sheets during the initial design process, prior to design selection and re-initiating design consultation at 30% design at minimum and through the permitting process for review and comment as identified in the Interagency Agreement (Agreement Number 43A0398).

**Recommendation 2 – Mitigation Planning:** CDFW strongly recommends that the lead agency develop a mitigation plan in coordination with CDFW for any permanent Project impacts that cannot be avoided that will be subject to LSA permitting and include that plan as part of the updated MND. The mitigation plan should include in detail any proposed on and/or off-site mitigation needs necessary to compensate for net-loss of river or stream resources including but not limited to hardscape materials and geotextile fabric within the bed, bank or channel of a stream, loss of riparian vegetation and

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mature trees, and expansion of existing infrastructure footprint(s). CDFW recommends proposed mitigation plan(s) include details such as mitigation location(s), proposed actions, monitoring, success criteria and any corrective actions.

### **COMMENT 2: Tree Removal Analysis**

**Issue:** The MND has not sufficiently disclosed or adequately analyzed the details surrounding tree removals throughout the Project limits. Page 6 of the MND notes; “It is anticipated that tree removal and pruning will be required at 9 culvert locations”. The lead agency fails to describe the species of trees, number of trees, or size of trees that will be removed and/or pruned at each location. Furthermore, the lead agency does not propose permanent protection or long-term management of replacement trees. In addition, the proposed avoidance and minimization measures MM BIO-8: Replacement plantings of native trees, MM BIO-9: Tree Replanting’s, MM BIO-14: Tree Removal, and MM Bio-17 Eucalyptus Tree Removal, do not adequately protect trees in place or seek to offset the potentially the impacts from the proposed tree removals.

**Recommendation 1:** The individual diameter at breast height (DBH) and species of each tree proposed for removal should be disclosed to the natural resource agencies and general public.

**Recommendation 2: On-Site Preservation of Oak and Riparian Trees On-Site:** The lead agency shall develop additional design alternatives to avoid permanent impacts and removals of large trees within the Project limits to preserve on-site. Those alternatives should be incorporated into a revised MND.

**Recommendation 3: Mitigation Consultation:** Early coordination with CDFW prior to the finalization of the MND is recommended to develop preferred mitigation for woodlands, individual large trees and riparian trees and vegetation.

**Recommendation Mitigation Measure 4: Design Coordination.** The Project Development Team (PDT) should incorporate principles to minimize the number of trees removed and maximize protecting trees in place. Once trees are selected for preservation on-site the lead agency should prepare a tree preservation plan that contains specific tree preservation methods. The plan should set contractor guidelines for tree protection including; prominently marking protected areas, erecting barricades around designated trees, tree bumpers; avoidance of vehicular traffic or parking in these restricted areas; and prohibit material storage, grading, and spilling of chemicals and other materials in restricted areas. To ensure compliance, contractors should have tree preservation bonds to cover potential noncompliance issues, damage or loss of trees.

**Recommendation Measure 6: Off-Site Conservation of Oak and Riparian Trees:** If mature or heritage trees (e.g., 15 DBH or greater), oak woodlands or riparian habitat must be cut or cleared, the lead agency shall permanently preserve in-kind resources at an off-site location. The off-site location may be lands with habitats that may be rehabilitated, restored, or preserved and maintained to mitigate potentially significant

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impacts to less-than-significant levels. The lands must be protected and maintained in perpetuity through fee title, transfer or conservation easement to an appropriate conservation entity to ensure long term preservation and successful implementation of the mitigation.

**Recommendation 7: Individual Tree Inventory Report:** The updated MND should include a tree inventory that includes map key information, species name, common name, DBH and overall health status for each individual tree on-site.

**Recommendation 8: On-Site and Off-Site Restoration Plan:** The lead agency should develop a more in-depth restoration plan in consultation with the natural resource agencies to replace MM BIO-8: Replacement Plantings of Native Trees, MM BIO-9: Tree Replanting's, MM BIO-14: Tree Removal, and MM Bio-17. The lead agency should incorporate details that (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard. The lead agency should specifically discuss permanent land protection in perpetuity, mitigation/restoration bank credit purchase and more specific acreage restoration areas and requirements in regard to oak woodlands and riparian habitat.

### **COMMENT 3: Santa Cruz Long-Toed Salamander**

**Issue:** The MND does not disclose Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*; SCLTS) may occur within the Project location. The Project is located within a half mile of documented SCLTS occurrences (BIOS, 2022). The Project has potential to cause significant impacts to the species. If SCLTS occur within or disperse into the area, the Project has the potential cause direct take of SCLTS through ground excavation, use of heavy machinery, and clearing habitat. The Project is set to occur within the vicinity of known breeding ponds for SCLTS that include Valencia, Willow Canyon, Seascape 1, Seascape 2, Seascape 3, and Racehorse Lane. The Santa Cruz long-toed salamander is an endangered species under CESA (Fish & G. Code, § 2050 et seq.) and a Fully Protected species (Fish & G. Code § 5050).

**Evidence the impact would be significant:** Santa Cruz long-toed salamander is documented to disperse over 1,000 meters from suitable habitat (ECOS, 2022). The Project is within dispersal distance of documented occurrences. There is suitable upland habitat, such as riparian woodland (U.S. Fish and Wildlife Service (USFWS) 2009) within and between the Project locations and known occurrences that can allow SCLTS connectivity.

**Recommendation 1: Protocol Survey and SCLTS Impact Assessment:** CDFW recommends protocol level surveys be performed as part of the Project to help inform SCLTS avoidance. CDFW also recommends Caltrans includes a discussion on the potential for presence of SCLTS in the MND and maps of that illustrate the locations of breeding ponds and suitable upland habitat in relation to the Project site. To determine

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the likelihood of SCLTS presence on-site, CDFW recommends conducting a full habitat assessment by gathering information from multiple sources including aerial imagery and topographic lidar maps, historical and recent survey data, field reconnaissance, scientific literature and “positive occurrence” databases such as California Natural Diversity Database (CNDDDB). Survey and monitoring protocols and guidelines for the SCLTS are available at: <https://www.fws.gov/media/guidance-site-assessment-and-field-surveys-detect-presence-or-report-negative-finding-santa>

**Recommended Measure 2: Avoidance of Impacts:** The Project shall completely avoid impacts to SCLTS including occupied habitat.

#### **COMMENT 4: Fish Passage Assessment**

**Issue:** Multiple potential fish passage barriers and unassessed locations exist within the identified Project limits, as described in the recommendations section below. Senate Bill 857 (SB-857), which amended Fish and Game Code § 5901 and added § 156 to the Streets and Highways Code states in § 156.3, “For any project using state or federal transportation funds programmed after January 1, 2006, [Caltrans] shall ensure that, if the project affects a stream crossing on a stream where anadromous fish are, or historically were found, an assessment of potential barriers to fish passage is done prior to commencing project design. [Caltrans] shall submit the assessment to the [CDFW] and add it to the CALFISH database. If any structural barrier to passage exists, remediation of the problem shall be designed into the project by the implementing agency. New projects shall be constructed so that they do not present a barrier to fish passage. When barriers to fish passage are being addressed, plans and projects shall be developed in consultation with the [CDFW].”

**Evidence the impact would be significant:** The Project contains stream crossings within areas mapped as historic or current watersheds where anadromous fish are, or historically were found. The species include but are not limited to Pacific Lamprey, Tidewater Goby, Central California Coast Winter-run Steelhead, South Central California Coast Steelhead, Monterey Roach, and Riffle Sculpin (BIOS; DS-1353). The decline of naturally spawning salmon and steelhead trout is primarily a result of the loss of appropriate stream habitat and the inability of fish to get access to habitat, according to reports to the Fish and Game Commission and by the CDFW (CDFW, 1996).

**Recommendations:** Restoration of access to historical spawning and rearing areas should be incorporated into the Project design through barrier modification, fishway installation, or other means (CDFW, 1996). If barriers or unassessed barriers noted within the Project limits identified below are found to be a barrier to fish passage, remediation of the problem should be designed into the Project by the implementing agency as a Project feature in consultation with CDFW and other natural resource agencies. CDFW recommends discussing the following locations as they pertain to fish passage (CNDDDB DS-69):



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Location 1, Velencia Creek, PM 9.15; SR-1, (Latitude: 36.9742; Longitude: -121.8846; Santa Cruz County), Fish Passage Assessment Database ID# 55534, fish barrier status: barrier has known fishway, total barrier.

Location 2, Valencia Creek, PM 10.05, SR-1, (Latitude: 36.9754; Longitude: -121.8997; Santa Cruz County), Fish Passage Assessment Database ID# 706704, fish barrier status: fishway present but needs work, temporal barrier.

Location 3, Valencia Creek, PM 9.97; SR-1, (Latitude: 36.9753; Longitude: -121.9012; Santa Cruz County), Fish Passage Assessment Database ID# 706703, fish barrier status: fishway present but needs work, 241-foot long, 10 ft wide concrete arch culvert with 0.85% grade. Concrete and redwood low flow sill and redwood baffles inside the culvert on one side installed in 1990 and funded by the Fisheries Restoration Grant Program. Low to moderate passage difficulty, blocks adult and juvenile upstream passage during low flows, and likely passable at moderate and high flow levels. Most of the baffles are filled in with sediment and debris limiting their effectiveness.

Location 4, Borregas Creek, PM 11.33; SR-1, (Latitude: 36.9825; Longitude: -121.9227; Santa Cruz County), Fish Passage Assessment Database ID# 734803, fish barrier status: barrier has no known fishway, total barrier.

Location 5, Unnamed tributary to the Pacific Ocean, PM 11.53; SR-1, (Latitude: 36.9830; Longitude: -121.9266; Santa Cruz County), Fish Passage Assessment Database ID# 734804, fish barrier status: barrier has no known fishway, total barrier.

Location 6, Unnamed tributary to the Pacific Ocean, PM 11.6; SR-1, (Latitude: 36.98338; Longitude: -121.9273; Santa Cruz County), Fish Passage Assessment Database ID# 734805, fish barrier status: barrier has no known fishway, total barrier.

Location 7, Unnamed tributary to the Soquel Creek, PM 11.8; SR-1, (Latitude: 36.9837; Longitude: -121.9314; Santa Cruz County), Fish Passage Assessment Database ID# 762471, fish barrier status: unknown.

Location 8, Unnamed tributary to Soquel Creek, PM 12.51; SR-1, (Latitude: 36.9839; Longitude: -121.9443; Santa Cruz County), Fish Passage Assessment Database ID# 734807, fish barrier status: temporal.

Location 9, Soquel Creek, PM 13.3; SR-1, (Latitude: 36.9829; Longitude: -121.9594; Santa Cruz County), Fish Passage Assessment Database ID# 762469, fish barrier status: unknown.

Location 10, Rodeo Creek Gulch, PM 14; SR-1, (Latitude: 36.9832; Longitude: -121.9710; Santa Cruz County), Fish Passage Assessment Database ID# 734809, fish barrier status: unknown.

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Location 11, Arana Gulch, PM 15.4; SR-1, (Latitude: 36.9875; Longitude: -121.9891; Santa Cruz County), Fish Passage Assessment Database ID# 734810, fish barrier status: unassessed. Survey conducted on 8/31/2021 determined this crossing warrants a detailed second pass survey.

Location 12, Pasatiempo Creek, PM 17.03; SR-1, (Latitude: 36.9895; Longitude: -122.0222; Santa Cruz County), Fish Passage Assessment Database ID# 734812, fish barrier status: temporal.

Location 13, San Lorenzo River, PM 17.6; SR-1, (Latitude: 36.9848; Longitude: -122.0275; Monterey County), Fish Passage Assessment Database ID# 731732, fish barrier status: unknown.

Location 14, Unnamed Tributary to the Pacific Ocean, PM 18.7; SR-1, (Latitude: 36.9699; Longitude: -122.0372; Santa Cruz County), Fish Passage Assessment Database ID# 734815, fish barrier status; unknown.

Location 15, Unnamed Tributary to the Pacific Ocean, PM 19.86; SR-1, (Latitude: 36.9605; Longitude: -122.0524; Santa Cruz County), Fish Passage Assessment Database ID# 731785, fish barrier status; unknown.

Location 16, Unnamed Tributary to the Pacific Ocean, PM 20.3; SR-1, (Latitude: 36.9611; Longitude: -122.0606; Santa Cruz County), Fish Passage Assessment Database ID# 731418, fish barrier status; unknown.

Location 17, Unnamed Tributary to the Pacific Ocean, PM 20.72; SR-1, (Latitude: 36.9617; Longitude: -122.0684; Santa Cruz County), Fish Passage Assessment Database ID# 731166, fish barrier status; unknown.

Location 18, Unnamed Tributary to the Wilder Creek, PM 20.4; SR-1, (Latitude: 36.9621; Longitude: -122.0736; Santa Cruz County), Fish Passage Assessment Database ID# 732193, fish barrier status; unknown.

Location 19, Wilder Creek, PM 21.51; SR-1, (Latitude: 36.9621; Longitude: -122.0840; Santa Cruz County), Fish Passage Assessment Database ID# 73261, fish barrier status; unknown.

Location 20, Sandy Flat Gulch, PM 21.95; SR-1, (Latitude: 36.9614; Longitude: -122.0908; Santa Cruz County), Fish Passage Assessment Database ID# 734816, fish barrier status; unknown.

Location 21, Unnamed tributary to the Pacific Ocean, PM 21.89; SR-1, (Latitude: 36.9617; Longitude: -122.0902; Santa Cruz County), Fish Passage Assessment Database ID# 731993, fish barrier status; unknown.

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Location 22, Unnamed tributary to the Pacific Ocean, PM 23.04; SR-1, (Latitude: 36. 9664; Longitude: -122. 1096; Santa Cruz County), Fish Passage Assessment Database ID# 732031, fish barrier status; unknown.

Location 23, Unnamed tributary to the Pacific Ocean, PM 23.47; SR-1, (Latitude: 36. 9694; Longitude: -122. 1168; Santa Cruz County), Fish Passage Assessment Database ID# 731574, fish barrier status; unknown.

Location 24, Baldwin Creek to the Pacific Ocean, PM 23.85; SR-1, (Latitude: 36. 9704; Longitude: -122. 1232; Santa Cruz County), Fish Passage Assessment Database ID# 731891, fish barrier status; unknown.

Location 25, Unnamed tributary to the Pacific Ocean, PM 24.16; SR-1, (Latitude: 36. 9732; Longitude: -122. 1284; Santa Cruz County), Fish Passage Assessment Database ID# 734822, fish barrier status; unknown.

Location 26, Unnamed tributary to the Pacific Ocean, PM 24.22; SR-1, (Latitude: 36. 9732; Longitude: -122. 1282; Santa Cruz County), Fish Passage Assessment Database ID# 731688, fish barrier status; unknown.

Location 27, Unnamed tributary to the Pacific Ocean, PM 24.33; SR-1, (Latitude: 36. 9747; Longitude: -122. 1305; Santa Cruz County), Fish Passage Assessment Database ID# 731413, fish barrier status; unknown.

Location 28, Majores Creek, PM 24.91; SR-1, (Latitude: 36. 9802; Longitude: -122. 1387; Santa Cruz County), Fish Passage Assessment Database ID# 731185, fish barrier status; unknown.

Location 29, Unnamed tributary to Majores Creek, PM 25.16; SR-1, (Latitude: 36. 9822; Longitude: -122. 1424; Santa Cruz County), Fish Passage Assessment Database ID# 732363, fish barrier status; unknown.

Additional site-specific details for each location should be incorporated in the updated MND, those details can be found here: [Passage Assessment Database \(PAD\) \(ca.gov\)](https://www.caltrans.ca.gov/Passage-Assessment-Database-PAD).

The fish passage section should discuss the current status of the crossing location noted in the California Fish Passage Assessment Database, conduct first pass and or second pass fish assessments, as necessary, as well as provide images of the upstream and downstream ends of water conveyance structure.

**Recommended Mitigation Measure 1: Fish Passage Assessment:** To evaluate potential impacts to native fish species and fisheries resources, Caltrans shall conduct fish passage assessments as described above and provide the results to CDFW and the CALFISH database. If any structural barrier to passage exists, remediation of the problem shall be designed into the Project by the implementing agency. New projects shall be constructed so that they do not present a barrier to fish passage. When barriers

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to fish passage are being addressed, plans and projects shall be developed in consultation with the CDFW. CDFW shall be engaged prior to design in early coordination and at 30% design at minimum and through the permitting process for review and comment as identified in the Interagency Agreement (Agreement Number 43A0398).

#### **COMMENT 5: Monarch Overwintering**

The draft MND does not discuss potential impacts to potential monarch butterfly overwintering colonies or suitable overwintering habitat. CDFW is concerned about the loss of trees and host plants needed for to support the monarch butterfly life cycle. The loss of suitable overwintering habitat for monarchs will contribute to extirpation of western monarch populations. If projects will remove trees used by over-wintering monarchs, tree planting alone is unlikely to be sufficient to mitigate impacts to a less-than-significant level. Known overwintering sites for monarch butterfly populations according to findings in Monarch Butterfly modeling (BIOS; DS 2861) and the Western Monarch Count Organization show six overwintering sites occurring within the vicinity of the Project. The sites are designated with the followings ID's 2087 (36.9791, -121.9231), 2086 (36.9797, -121.9309), 2984 (36.9784, -121.9575), 2997 (36.9795, -122.03557), 2994 (36.9627, -122.0593), 2993 (36.9611, -122.0834) (<https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/>).

**Evidence the impact would be significant:** The data gathered from the Western Monarch Thanksgiving Count show that western overwintering monarchs are at an all-time critical low level and have significantly declined to approximately two percent of their numbers since 1997 (Xerces Society Western Monarch Thanksgiving Count, 2019). The decrease in Western Monarch butterflies may be due to the loss of overwintering habitat and loss of its host plant (milkweed) (Pelton et al. 2019). According to the Xerces Society, "Western monarchs use the same sites each year, even the same trees, and need intact overwintering habitat, which provides a very specific microclimate and protection from winter storms," (Xerces Society, 2020).

**Recommendations:** The MND should incorporate protective measures for western monarch butterflies that includes protecting trees used for overwintering.

**Recommended Measure 1: Protect, Manage, Enhance and Restore Monarch Butterfly Overwintering Sites:** Conduct overwintering grove habitat assessment(s) and develop and implement long-term grove management plans (<https://www.westernmonarchcount.org/>). Management plan actions for groves may include, but are not limited to: Enhance roosting trees within overwintering groves and within ½ mile of groves by planting native insecticide-free trees (e.g., Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), coast redwood (*Sequoia sempervirens*), coast live oak (*Quercus agrifolia*), Douglas-fir (*Pseudotsuga menziesii*), Torrey pine (*Pinus torreyana*), western sycamore (*Platanus acemose*), Bishop pine (*Pinus radiata*) and others, as appropriate for location).

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Avoid the removal of trees or shrubs within ½ mile of overwintering groves, except for specific grove management purposes, and/or for human health and safety concerns. The maintenance of trees and shrubs within a ½ mile of these sites provides a buffer to preserve the microclimate conditions of the winter habitat.

Conduct management activities such as tree trimming, mowing, burning and grazing in monarch overwintering habitat in coordination with a monarch biologist and outside of the estimated timeframe March 16-September 14 when monarchs are likely present.

Enhance native, insecticide-free nectar sources by planting fall/winter blooming forbs or shrubs within overwintering groves and within one mile of the groves ([https://xerces.org/sites/default/files/publications/18-003\\_02\\_Monarch-NectarPlant-Lists-FS\\_web%20-%20Jessa%20Kay%20Cruz.pdf](https://xerces.org/sites/default/files/publications/18-003_02_Monarch-NectarPlant-Lists-FS_web%20-%20Jessa%20Kay%20Cruz.pdf)).

Avoid the use of pesticides within one mile of overwintering groves, particularly when monarchs may be present. If pesticides are used, then conduct applications from March 16-September 14, when possible. Avoid the use of neonicotinoids or other systemic insecticides, including coated seeds, any time of the year in monarch habitat due to their ecosystem persistence, systemic nature, and toxicity. Avoid the use of soil fumigants.

Consider non-chemical weed control techniques, when possible (<https://www.cal-ipc.org/resources/library/publications/non-chem/>). Remove tropical milkweed that is detected, and replace it with native, insecticide-free nectar plants suitable for the location ([https://xerces.org/sites/default/files/publications/18-003\\_02\\_Monarch-NectarPlant-Lists-FS\\_web%20-%20Jessa%20Kay%20Cruz.pdf](https://xerces.org/sites/default/files/publications/18-003_02_Monarch-NectarPlant-Lists-FS_web%20-%20Jessa%20Kay%20Cruz.pdf)).

To assist in maintaining normal migration behavior, do not plant any type of milkweed within five miles of the coast from Mendocino County south through Santa Barbara County, and within one mile of the coast south of Santa Barbara County, unless the species of milkweed is native to the local area. Conduct grove monitoring for butterflies during the Western Monarch Counts each fall and winter. When possible, report when monarchs arrive and depart the groves each year (<https://www.westernmonarchcount.org/>).

#### **COMMENT 6: Wildlife Connectivity**

**Issue:** California wildlife is losing the ability to move and migrate as habitat conversion and built infrastructure disrupt species habitat and cut off migration corridors (Senate Bill 790; SB-790). This Project location occurs within an irreplaceable and essential connectivity corridor. The current baseline condition of the SR-1 corridor represents a semi-permeable to permeable location for terrestrial wildlife connectivity. The proposal to construct alternatives that result in highway lane expansions have the potential to create a non-permeable barrier to terrestrial wildlife connectivity. The proposed increase in roadside safety locations, rehabilitation of lighting elements, shoulder widening,

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extensive median barriers, edge of pavement barriers, vehicle pullouts and access roads will all significantly expand the width and complexity of the corridor.

**Recommendations:** CDFW recommends the lead agency utilize terrestrial connectivity elements such as wildlife friendly culverts, directional fencing, strategically placed median barriers, under-crossings, over-crossings and elevated causeways into the Project as design features or conditions of approval. CDFW recommends the following considerations and information be incorporated into the Project MND based on California Department of Fish and Wildlife's 2020 wildlife movement barrier priorities:

Wildlife Movement Barrier: Location 1: Highway 1, segment name; Hwy 1 SCLTS Rio Del Mar/Buena Vista, target species; Santa Cruz long-toed salamander, length miles; 5.214 miles, barrier ID W021.

**Recommendation 1 – Wildlife Connectivity:** The MND should include the results of a wildlife movement study. CDFW recommends the study occur over a period of at least 12 months prior to the development of designs so terrestrial connectivity structures can be programed into the Project. The study should occur within the limits of the proposed Project to develop a baseline understanding of the areas where wildlife movement, crossings and mortalities are most prevalent. The study should also be utilized to develop Project design to identify areas where wildlife crossing structure(s) installation(s) would result in the largest benefit to rare, threatened and endangered species as well as special-status species and non-special-status species for wildlife connectivity. During the 12-month study, an analysis should be performed and utilized to determine the type, size and number of structures that would be most beneficial to facilitate wildlife connectivity (e.g., new wildlife crossing culverts, modification of existing culverts, elevated causeways, etc.). Upon completion of the Project, wildlife connectivity structures and movement corridors should be studied for an additional 6 to 12 month period, at minimum, to determine the effectiveness of the designs. The protocol for the baseline survey, post-construction surveys, site selection criteria and design criteria for the development of the wildlife connectivity structures should follow the protocols outlined in; *The California Department of Transportation (Caltrans), Wildlife Crossings Design Manual* (Caltrans, 2009) and the *Federal Highway Administration Wildlife Crossing Structure Handbook – Design and Evaluation in North America, Publication No. FHWA-CFL/TD-11-003* (FHWA, 2011).

#### **COMMENT 7: Special-Status Plants**

**Issue:** State threatened, endangered or rare plant species may occur within the Project area. Without appropriate mitigation measures, the Project could significantly impact these species. Potential impacts to special-status plants include disrupting reproduction, mortality to individuals and/or populations. Unauthorized take of plant species listed as threatened, endangered, or rare pursuant to CESA or the Native Plant Protection Act is a violation of Fish and Game Code. Special-status plants are typically narrowly distributed endemic species. These species are susceptible to habitat loss and habitat

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fragmentation resulting from development, vehicle and foot traffic, and introduction of non-native plant species.

**Recommendation 1: Focused Plant Surveys:** CNDDDB strongly encourages the use of Department protocols and guidelines. The Department believes the link below to be the best available methodology for the intended purpose.

<https://wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants>.

**Recommendation 2: Plant Avoidance and Buffers:** Special-status plant species should be avoided through delineation and establishment of a no disturbance buffer of at least 50 feet from the outer edge of the plant population or specific habitat type required by special-status plant species. If State-listed plant species are identified during surveys and full avoidance of take is not feasible, take authorization through CDFW issuance of an ITP would be required.

### **COMMENT 8: Light Impact Analysis and Discussion**

**Issue:** A significant portion of the proposed Project within the SR-1 corridor does not contain any overhead or artificial light sources. The Project proposes 32 lighting improvements along SR-1. Artificial light spillage beyond the prism of the roadway into natural areas may result in a potentially significant impacts through substantial degradation of the quality of the environment. Artificial light pollution also has the potential to significantly and adversely affect biological resources and the habitat that supports them. Unlike the natural brightness created by the monthly cycle of the moon, the permanent and continuously powered lighting fixtures create an unnatural light regime that produces a constant light output. Continuous light output for 365 days a year can also have cumulatively significant impacts on fish and wildlife populations.

**Evidence the impact would be significant:** Artificial night lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Artificial night lighting has also been found to impact juvenile salmonid overwintering success by delaying the emergence of salmonids from benthic refugia and reducing their ability to feed during the winter (Contor and Griffith 1995). For nocturnally migrating birds, direct mortality as a result of collisions with anthropogenic structures due to attraction to light (Gauthreux, 2006) is another direct effect of artificial light pollution. There are also more subtle effects, such as disrupted orientation (Poot et al. 2008) and changes in habitat selection (McLaren et al. 2018). There is also growing evidence that light pollution alters behavior at regional scales, with migrants occupying urban centers at higher-than-expected rates as a function of urban illumination (La Sorte et al. 2021). While artificial light pollution can act as an attractant at both regional (La Sorte et al. 2021) and local (Van Doren et al. 2017) scales, there is also evidence of migrating birds avoiding strongly lit areas when selecting critical resting sites needed to rebuild energy stores (McLaren et al. 2018).

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**Recommendation:** Due to the high potential for songbirds, migratory birds, salmonids and nocturnally active State listed and special status species, CDFW recommends no lighting is installed as part of or as a result of Project in order to avoid potentially significant impacts to biological resources from artificial lighting.

**Recommended Measure 1: Habitat Compensation:** For Project elements that require artificial lighting, compensatory mitigation shall be provided for all areas supporting fish and wildlife affected by new or increased light output.

**Recommended Measure 2: Light Output Analysis:** Isolux Diagrams that note current light levels present during pre-Project conditions and the predicted Project light levels that will be created upon completion of the Project shall be included in the MND. If an increase in light output from current levels to the projected future levels is evident additional avoidance, minimization or mitigation shall be developed in coordination with the natural resource agencies to offset indirect impacts to special status species and those measures included in the Project MND. Within 60 days of Project completion the lead agency shall conduct a ground survey that compares projected future light levels with actual light levels achieved upon completion of the Project through comparison of Isolux diagrams. If an increase from the projected levels to the actual levels is discovered additional avoidance, minimization or mitigation measures may also be required in coordination with the natural resource agencies. This analysis should be conducted across all potential alternatives and compared in table and map format.

**Recommended Measure 3: Light Output Limits:** All LED's or bulbs installed as a result of the Project shall be rated to emit or produce light at or under 2700 kelvin that results in the output of a warm white color spectrum.

**Recommended Measure 4: Vehicle Light Barriers:** Solid barriers at a minimum height of 3.5 feet should be installed in areas where they have the potential to reduce illumination from overhead lights and from vehicle lights into areas outside of the roadway. Barriers should only be utilized as a light pollution minimization measure if they do not create a significant barrier to wildlife movement. Additional barrier types should be employed when feasible, such as privacy slats into the spacing of cyclone fencing to create light barriers for areas outside the roadway.

**Recommended Measure 5: Reflective Signs and Road Striping:** Retro-reflectivity of signs and road striping should be implemented throughout the Project to reduce the need for electrical lighting.

**Recommended Measure 6: Light Pole Modifications and Shielding:** All new or replacement light poles or sources of illumination shall be installed with the appropriate shielding to avoid excessive light pollution into natural landscapes or aquatic habitat within the Project corridor in coordination with CDFW. In addition, the light pole arm length and mast heights should be modified to site-specific conditions to reduce excessive light spillage into natural landscapes or aquatic habitat within the Project



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corridor. In areas with sensitive natural landscapes or aquatic habitat the lead agency should also analyze and determine if placing the light poles at non-standard intervals has the potential to further reduce the potential for excessive light pollution caused by decreasing the number of light output sources in sensitive areas.

## CONCLUSION

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California's fish and wildlife resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Questions regarding this letter or further coordination should be directed to Mr. Will Kanz, Environmental Scientist, at (707) 337-1187 or [Will.Kanz@wildlife.ca.gov](mailto:Will.Kanz@wildlife.ca.gov); or Mr. Wesley Stokes, Senior Environmental Scientist (Supervisory), at (707) 339-6066 or [Wesley.Stokes@wildlife.ca.gov](mailto:Wesley.Stokes@wildlife.ca.gov).

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