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State of California – Natural Resources Agency
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SUBJECT: Garcia Bridge Scour Project Initial Study with Proposed Mitigated Negative Declaration. SCH# 2026090799

Dear Rachelle Hadley:

On September 17, 2026, the California Department of Fish and Wildlife (CDFW) received an Initial Study with Proposed Mitigated Negative Declaration (MND) from the California Department of Transportation (Caltrans; Lead Agency) for the Garcia Bridge Scour Project (Project), Mendocino County, California. CDFW understands the Lead Agency will accept comments on the Project through October 19, 2026.

As a Trustee Agency for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary to sustain their populations. As a Responsible Agency, CDFW administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code (Fish & G. Code) that conserve the State's fish and wildlife public trust resources. CDFW offers the following comments and recommendations in our role as Trustee and Responsible Agency pursuant to the California Environmental Quality Act (CEQA; California Public Resource Code, § 21000 *et seq.*). CDFW participates in the regulatory process in its roles as Trustee and Responsible Agency to minimize Project impacts and avoid potentially significant environmental impacts by recommending avoidance and minimization measures. These comments are intended to reduce the Projects impacts on public trust resources.

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Project Description

As stated in the MND, the Project is located in southern Mendocino County on State Route 1 at post mile 18.5, approximately 3.5 miles north of Point Arena.

The Garcia River Bridge is a five-span structure with foundations of reinforced concrete pier walls and supported by driven timber piles. The bridge, built in 1938, has a history of scour and debris accumulation from the Garcia River during rain events. Caltrans Bridge Inspection Reports have identified the Garcia River Bridge as having high scour vulnerability and it is rated "Scour Critical," meaning the bridge foundations were determined to be unstable for assessed or calculated scour conditions. The bridge has a history of scour resulting in scour holes and exposed pile cap/footings at various piers, including debris loading acting on Piers Three, Four, and Five, and Abutment Six.

Caltrans' proposed Project includes excavating and removing debris around Piers Three, Four, and Five and Abutment Six, recontouring the fill within the deeper parts of the scour critical areas, and placing rock protection (riprap) around Piers Three, Four, and Five, and along the base of Abutment Six. Options discussed on the MND for riprap placement are either "partially grouted" riprap (riprap within grout/concrete matrix) or riprap without grouting. The "partially grouted" riprap option would result in approximately 8,960 square feet of 36" diameter rock at three feet in depth being placed around Piers Three, Four, and Five and the south side of Abutment Six. The riprap without grouting option would result in approximately 8,960 square feet of rock at 7.5 feet in depth around the same foundations, with 24-36" (1-ton) riprap placed around Piers Three and Four, and 18" (1/4-ton) rock placed at Pier Five and Abutment Six.

For both options, in order to preserve the existing timber piles, no excavation would occur within five feet of the existing piers. In addition, the central channel (i.e., >10 feet from Piers Three and Four) would be contoured/excavated below the original grade to allow for fish passage during all flow levels. Construction activities will also include dewatering around the piers and a clear water diversion to bypass river flow around the construction site.

The MND includes many Standard Measures and Best Management Practices to avoid or minimize impacts to biological and other resources. Additionally, the

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MND contains one biological resource mitigation measure (MM-BR-1) to reduce impact to less than significant for special-status fish species.

Environmental Setting and Special Status Species

The Project is located on the Garcia River approximately two miles upstream from the Pacific Ocean. Riparian habitat, including the Lower Garcia River, is essential for a wide variety of important resident and migratory fish and wildlife species (CDFW 2014). This lower portion of the Garcia River is an important corridor for fish and wildlife movement, especially migrating salmonids and other anadromous fish accessing the remainder of the 114 square mile Garcia River watershed. These species include Coho Salmon (*Oncorhynchus kisutch* [Central California coast ESU; Federally Endangered, State Endangered]), Chinook salmon (*O. tshawytscha* [California Coastal ESU; Federally Threatened, State Species of Special Concern]), Steelhead (*O. mykiss irideus* [Northern California DPS winter-run; Federally Threatened, State Species of Special Concern]), and Longfin Smelt (*Spirinchus thaleichthys* [State Threatened]).

The Project's biological study area contains potential habitat for at least 43 special status species, including 26 plants, three amphibians and reptiles, five fishes, seven birds, and two mammals (MND Appendix D). Additionally, the study area contains at least three Sensitive Natural Communities, 2.8 acres of Waters of the State[1], and 2.8 acres of riparian habitat (MND Table 3).

CDFW Consultation History

CDFW consultation for this Project began in December of 2025, with CDFW staff participating in two subsequent early coordination meetings. During these meetings and in additional correspondence, CDFW raised concerns regarding effects from proposed riprap on river scour, changes in geomorphology/stability, and fish passage, stating the Project cannot result in a fish passage barrier

[1] "Waters of the state" means any surface water or groundwater, including saline waters, within the boundaries of the state (Cal. Wat. Code, § 13050).

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(immediately post-project or years later) for any fish life stages or flow levels. If the Project could potentially result in impediments to the passing of fish up and downstream, including long term post-Project changes associated with the proposed riprap, CDFW would consider this a significant impact (Fish & G. Code, § 5901; Cal. Code Regs., tit. 14, §§ 15064 &15382 [hereafter, CEQA Guidelines]).

CDFW looks forward to continued communication and coordination by the Lead Agency regarding specific Project components, impacts, and proposed mitigation strategies.

CDFW Permitting

Based on information provided in the MND, the proposed Project will likely have substantial impacts to the bed, bank or channel of the Garcia River. Caltrans should notify CDFW for a Lake or Streambed Alteration (LSA) Agreement. CDFW agrees with the Lead Agency that the Project could result in take[2] of species listed as threatened or endangered pursuant to Fish and Game Code. For more information, please visit CDFW's LSA webpage: https://wildlife.ca.gov/Conservation/Environmental-Review/LSA and CESA permitting webpage: https://wildlife.ca.gov/Conservation/CESA/Permitting. The Lead Agency should continue to coordinate with CDFW regarding potential geomorphic and fish passage impacts prior to finalizing the CEQA process in order to avoid finalizing a CEQA Project that is un-permittable in the subsequent CDFW permitting process.

CDFW looks forward to continuing coordination with Caltrans to ensure the Project and mitigation approaches will be compatible with state permitting requirements.

[2] Take means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish & G. Code, § 86).

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CDFW Comments on the MND:

1. **Potentially Significant Impacts on River Geomorphology and Fish Passage**

   As described in more detail in CDFW comments 2-7, the Project's proposed riprap would introduce a substantially coarser and more resistant boundary around multiple in-channel foundations, creating marked contrast in bed-material mobility and hydraulic roughness between the natural channel and the armored areas. River flow on fixed hard surfaces has the potential to increase local velocities, boundary shear stresses, and scour. Although the MND states the proposed riprap will be buried under the current channel thalweg elevation ("where feasible") and would meet fish passage requirements, the medium and long-term Project effects on river geomorphology and fish passage are critically important and unaddressed in the MND.

   Without CDFW's recommended analyses, it is unclear how the Lead Agency is able to determine the risk of the proposed riprap inadvertently causing substantial changes to the Garcia River morphology. CDFW is concerned the Project could create a new fish passage barrier. CDFW would consider this a significant impact (Fish & G. Code, § 5901; CEQA Guidelines, §§ 15064 &15382) and does not support post-CEQA deferral of this impact analysis or associated mitigation details.

   Given CDFW concerns about Project impacts on Garcia River geomorphology (including fish passage for threatened and endangered species) and the lack of related analysis presented in the MND, substantial evidence has been provided, consistent with CEQA Guidelines section 15384, that CESA listed and other special status species exist within the Project construction area and that Caltrans has circulated an MND that proposes a Project alternative with potentially significant impacts that have not been adequately analyzed or mitigated. Therefore, absent of additional analysis and coordination with CDFW prior to CEQA finalization, Caltrans should prepare an Environmental Impact Report that thoroughly assesses a range of project alternatives, including alternative pier stabilization designs and bridge replacement **(Recommendation 1)**.

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2. Preferred Alternative and Design Analysis

The existing bridge configuration and its multiple in-channel foundations contribute to the hydraulic and geomorphic conditions affecting the bridge. Upon review of the proposed Project alternatives, CDFW recommends the Lead Agency develop and evaluate a bridge design alternative that spans the bankfull channel and minimizes the number of foundation components within the bankfull channel and floodplain **(Recommendation 2)**. The alternative should evaluate a longer bridge opening and consider the existing channel geometry, bankfull channel dimensions, floodplain connectivity, channel migration potential, sediment transport, large woody debris passage, hydraulic conditions, and long-term channel stability.

The existing Garcia River Bridge was constructed in 1938 and has been in service for 88 years. The bridge is supported by multiple pier walls within the active main channel, including Piers Three and Four which are experiencing substantial scour. The channel is currently migrating towards the southern riverbank, resulting in increased hydraulic angle attack flow approach to the existing pier walls. This condition can concentrate hydraulic forces against the pier walls and exacerbate localized scour. The proposed placement of partially grouted rock riprap around Piers Three, Four, Five, and Abutment Six would primarily address the effects of scour associated with the existing bridge configuration rather than the underlying hydraulic and geomorphic constraints created by multiple foundations within an active laterally adjusting channel. Given the age of the Garcia River Bridge and the current channel migration and scour conditions, CDFW recommends the Lead Agency evaluate whether replacement with a longer-span bridge having fewer or no foundation elements within the bankfull channel could address these conditions at their source and provide a more sustainable long-term solution than continuing to armor the existing foundations.

A bridge alternative that spans the bankfull channel and minimizes in-channel foundation components could reduce localized hydraulic forces and oblique hydraulic loading associated with future channel migration, shear stresses, and erosive velocities associated with the existing pier walls and future channel migration. It could also allow greater continuity of sediment transport, passage of large wood, maintain or restore floodplain

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connectivity, and reduce potential hydraulic and geomorphic constraints to aquatic and terrestrial habitat connectivity. Such an alternative could reduce or eliminate the need for extensive permanent rock riprap and the associated long-term maintenance within a dynamic riverine system. The Lead Agency should evaluate whether this alternative would provide greater long-term capacity for the channel to accommodate lateral migration, sediment transport, flood flows, and other natural fluvial processes, while improving adaptability to future changes in hydrology and sea level rise over the service life of the replacement bridge.

3. **Geomorphic Stability and Long-Term Effectiveness of Proposed Scour Countermeasures**

The documented lateral migration of the channel raises concerns regarding the long-term effectiveness of the Project's scour protection designed for its current location. CDFW recommends the Lead Agency evaluate the long-term geomorphic effectiveness of the proposed partially grouted rock riprap around Piers Three and Four **(Recommendation 3)**. Historical channel cross sectional analysis data demonstrates a progressive lateral shift of the channel thalweg towards the southern riverbank. The main channel was historically located between Piers Four and Five and is currently located between Piers Three and Four. At the same time, thalweg elevations have remained relatively consistent, indicating the predominant channel adjustment through the bridge opening has been lateral instability rather than vertical.

The existing pier walls increase the potential for localized pier scour as the channel migrates towards the southern riverbank. As the documented lateral migration continues to shift and approach pier walls, flow is increasingly redirected around fixed foundations, potentially increasing local velocities, boundary shear stresses, and the scour potential. The proposed partially grouted rock riprap would protect the existing foundations, based on the current location of the main channel, but would not address the underlying interaction between the laterally migrating channel and fixed pier walls. If channel migration continues towards Abutment One, the active main channel could eventually shift toward Piers Two and Three of Span Two and potentially outflank or bypass the proposed scour protection reducing its long-term effectiveness, transferring scour risk and embankment erosion to other

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portions of the bridge.

CDFW recommends the Lead Agency provide a geomorphic assessment evaluating the historical trajectory and potential future direction of lateral channel migration through the existing Garica River Bridge. The assessment should incorporate the historical channel cross sectional analysis, available historical aerial imagery, and channel bank locations to quantify the magnitude and direction of future thalweg positions over the anticipated service life of the project and determine whether the proposed scour protection will remain effective as the channel continues to adjust. The Lead Agency should also evaluate whether continued lateral migration could result in a continuing need for additional scour protection or channel armoring as the active main channel shifts through the bridge opening. CDFW recommends that this potential long-term response be considered in the CEQA analysis and compared with a bridge configuration that minimizes in-channel foundation elements and is less dependent on permanent scour armoring to accommodate a laterally migrating channel.

4. FHWA Guidance on Appropriateness of Proposed Scour Countermeasure

The proposed scour countermeasure should be evaluated in the context of Federal Highway Administration (FHWA) guidance for channel exhibiting lateral instability. CDFW recommends the Lead Agency evaluate the appropriateness of the proposed partially grouted rock riprap in consideration of the documented lateral migration of the channel **(Recommendation 4)**. FHWA's Hydraulic Engineering Circular No. 23 (HEC-23), Volume 1, Bridge Scour and Stream Instability Countermeasures, Table 2.1 distinguishes between countermeasures intended to address local bridge scour and those intended to address stream instability (Lagasse et al. 2009). The FHWA matrix of Table 2.1 identifies riprap (fill/apron) or partially grouted riprap as a local scour armoring countermeasure and indicates that this application is not suitable to lateral stream instability.

Because the proposed riprap is intended to protect Piers Three and Four from scour within a channel that has demonstrated lateral migration through the bridge opening, CDFW recommends the Lead Agency explain how the proposed scour countermeasure addresses the broader geomorphic condition rather than only the current location of localized pier scour. The analysis should demonstrate that continued lateral

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migration will not undermine, bypass, or otherwise reduce the effectiveness of the proposed treatment.

CDFW further recommends the Lead Agency evaluate whether a countermeasure specifically designed to accommodate or address lateral channel instability, or a bridge configuration that reduces the number of in-channel foundations, would provide a more appropriate long-term solution. The CEQA analysis should identify and evaluate the potential for the proposed scour treatment to require future expansion or additional armoring as the channel continues to migrate.

5. Geomorphic Effects of Localized Channel-Bed Armoring

Localized armoring around multiple pier walls may alter hydraulic and sediment transport processes within and adjacent to the bridge opening. CDFW recommends the Lead Agency evaluate the geomorphic effects of the proposed partially grouted rock riprap around Piers Three, Four, and Five **(Recommendation 5)**. The channel bed in the vicinity of the project location is composed predominately of fine to coarse gravels. The proposed partially grouted rock riprap would introduce a substantially coarser and more resistant boundary around multiple in-channel foundations, creating marked contrast in bed-material mobility and hydraulic roughness between the natural channel and the armored areas.

The proposed armoring may alter the local flow field and redistribute boundary shear stresses and sediment transport capacity laterally and downstream of the protected areas, particularly where flow transitions between the relatively immobile rock riprap and the natural gravel bed. Increased hydraulic forces at these transitions could contribute to localized scour, bank erosion, or sediment deposition outside the immediate riprap footprint. In this respect, the proposed treatment may protect the existing pier foundations while transferring the hydraulic and geomorphic response to adjacent or downstream portions of the channel rather than addressing the underlying interaction between the migrating channel and fixed pier walls. Reducing the availability of mobile bed material within the armored areas may also create localized sediment deficient conditions (i.e., hungry water) where transport capacity exceeds available sediment supply. The likelihood and magnitude of these effects, including impacts to fish passage conditions, should be evaluated using site-specific hydraulic and sediment transport analysis.

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CDFW recommends the Lead Agency evaluate the potential effects of the proposed armoring within and immediately adjacent to the bridge opening, including changes in hydraulic roughness, boundary shear stress, bed-material mobility, sediment transport, and the redistribution of flow forces and sediment at the riprap transitions. The analysis should consider the existing gravel-bed conditions and proposed riprap and determine whether the treatment could alter local channel mechanics, sediment continuity, or geomorphic processes beyond the immediate footprint of the scour countermeasure.

6. Geomorphically Based Channel Stabilization Measures

The channel's documented geomorphic response provides an opportunity to consider stabilization measures that work with natural channel processes. CDFW recommends the Lead Agency evaluate geomorphically based channel stabilization measures as an alternative to extensive partially grouted rock riprap **(Recommendation 6)**. Such measures should work with the channel's existing geometry and documented lateral migration rather than fixing the channel boundary around the existing bridge foundations. The objective should be to establish a more stable channel alignment and distribute hydraulic forces in a manner that reduces flow attack and localized scour at the pier walls while maintaining sediment transport, channel connectivity, and the channel's ability to adjust to changing flow conditions.

Potential measures may include engineered log jams, strategically placed large woody material, rootwad or log-based bank treatments, wood- and/or rock-based flow deflectors, vegetated bank treatments, and other channel-margin roughness or stabilization features. These measures should be located and configured based on the existing channel geometry, thalweg alignment placement, sediment characteristics, and hydraulic conditions and should allow continued channel adjustment while directing higher energy flows away from the vulnerable bridge foundations. The design should also demonstrate the redirected hydraulic forces will not create new areas of scour or bank erosion within or immediately downstream of the bridge opening.

CDFW recommends the Lead Agency evaluate the feasibility and expected hydraulic and geomorphic performance of these measures in comparison with the proposed partially grouted rock riprap. The evaluation should consider whether a geomorphically based approach can address the existing scour condition while minimizing permanent

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channel armoring and maintaining the natural mobility and function of the channel over the long term.

7. Hydrologic, Hydraulic, Scour, and Geomorphic Analyses

CDFW recommends additional technical studies to evaluate the hydraulic and geomorphic performance of the proposed project and alternatives **(Recommendation 7)**. The Lead Agency should provide additional technical studies and analyses necessary to evaluate the proposed scour-mitigation configuration, the alternative bridge solution, and geomorphically based channel-stabilization concepts discussed above. The analyses should evaluate both existing and proposed conditions and demonstrate the short and long-term hydraulic and geomorphic performance of each alternative.

a. Hydrologic Analysis. Provide a hydrologic analysis identifying the appropriate low and high design flows for fish passage, the bankfull discharge, or the 2-year recurrence-interval flood event if used as a surrogate for bankfull discharge, and the applicable peak design flood events, including the 5-year, 10-year, 50-year, and 100-year recurrence-interval events. The analysis should document the hydrologic data, methodology, recurrence intervals, and assumptions used to establish each design flow and explain the applicability of the selected flows to the project site.

b. Hydraulic and Scour Analysis. Provide a 2-dimensional hydraulic analysis evaluating localized hydraulic conditions at the bridge foundations, channel banks, and channel bed, including water surface elevations, flow depths, velocities, boundary shear stresses, and flow distribution. The analysis should evaluate existing and proposed bridge configurations, the proposed partially grouted rock riprap, and geomorphically based channel-stabilization alternatives under the identified design flow conditions.

c. Geomorphic and Channel Migration Analysis. Provide a geomorphic assessment evaluating the existing and proposed channel conditions, including vertical and lateral channel stability, channel migration potential, channel alignment, geomorphic stage and evolution of the existing channel, and the potential for long-term channel adjustment. The analysis should evaluate whether the existing and proposed bridge foundations and rock riprap are likely

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to constrain natural channel processes or result in localized scour, deposition, channel incision, bank erosion, or other geomorphic responses over the life of the project. The assessment should specifically consider the existing channel migration toward the southern riverbank and whether continued lateral migration could outflank or bypass the proposed scour protection or increase hydraulic loading and scour at other bridge foundations or embankment areas.

d. **Sediment-Transport and Bed-Mobility Analysis**. Evaluate the existing sediment regime and the potential effects of the proposed armoring on bed-material mobility, sediment transport, and sediment continuity through the bridge opening. The analysis should consider the existing gravel-bed conditions and proposed rock riprap and evaluate the potential for altered sediment entrainment, deposition, localized sediment deficits, or increase scour at transitions between armored and natural-bed areas.

e. **Large Woody Debris and Sediment Passage Analysis**. Evaluate how the existing pier configuration, proposed scour protection, and alternative bridge configuration would affect the passage and accumulation of large woody debris and sediment through the bridge opening. The analysis should consider whether the proposed scour countermeasure could increase debris accumulation against the pier walls or alter the natural transport of sediment and woody material through the project reach.

f. **Alternative Design and Geomorphic Stabilization Analysis**. Evaluate the hydraulic and geomorphic performance of the longer-span bridge alternative and potential geomorphically based channel-stabilization measures, including appropriately designed large woody material, engineered wood structures, rootwad or log-based treatment, and channel margin roughness features. The analysis should determine whether these alternatives can reduce hydraulic attack and localized scour at the bridge foundations while maintaining channel mobility and accommodating continued lateral adjustment.

g. **Long-term Performance and Maintenance Analysis**. Evaluate the expected performance of the proposed scour countermeasure and alternatives over the life of the bridge, including potential for

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continued channel migration, outflanking of scour protection, expansion of channel armoring, and future maintenance or replacement of scour countermeasures. The analysis should identify potential failure or performance thresholds, including fish passage, and the actions that would be required if channel conditions depart from those assumed in the design.

CDFW recommends these studies be used collectively to compare the existing bridge configuration with proposed rock riprap versus CDFW's suggestions of a longer-span bridge alternative and geomorphically based stabilization alternatives. The comparison should address hydraulic conditions, scour protection, channel stability, sediment transport, aquatic habitat including long term fish passage, large woody debris and sediment passage, long-term maintenance requirements, and adaptability to future hydrologic and sea level rise conditions. In particular, the Lead Agency should evaluate whether reducing or eliminating foundation elements within the active main channel can address the existing scour condition and reduce the need for permanent channel armoring while providing greater long-term resilience to channel migration, flood flows, and projected changes in sea level and hydrology. The results should be incorporated into the CEQA analysis to demonstrate the selected project configuration provides adequate structural performance while minimizing long-term alteration of natural channel processes. If the Project could potentially result in impediments to the passing of fish up and downstream, including long term post-Project changes associated with the proposed riprap, CDFW would consider this a significant impact (Fish & G. Code, § 5901; CEQA Guidelines, §§ 15064 &15382 [).

8. Wildlife Connectivity

The MND does not address potential Project impacts from bankline riprap on movement of wildlife species (CEQA Guidelines Appendix G(IV)(d); California Streets and Highways Code, § 158 et seq.). Riparian corridors are vital travel routes for a variety of terrestrial species to access essential resources for survival. Improper riprap placement may deter some native species, such as deer or small animals that cannot navigate irregular rocky terrain from utilizing the bridge undercrossing. CDFW recommends early coordination with CDFW wildlife connectivity staff to discuss Project features that could minimize impacts to wildlife connectivity **(Recommendation 8).** Possible features include construction of dry benches on the riverbank under the bridge to facilitate the crossing of

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terrestrial wildlife during rain events. The width and vertical clearance of dry benches should be of sufficient size for wildlife expected to use the crossing. Exclusion fencing could also be considered to guide wildlife away from SR 1 and reduce roadkill. Wildlife fencing in combination with wildlife crossing structures is an effective strategy to reduce vehicle collisions while also maintaining connectivity across highways for wildlife (Huijser et al., 2009, Clevenger et al. 2001, Gagnon et al., 2015, Sawyer et al., 2012).

The Project is within the 77-mile estimated home range for the Point Arena Mountain Beaver (*Aplodontia rufa nigra*) [Federally Threatened, State Species of Special Concern]. There are Point Arena Mountain Beaver (PAMB) roadkill observations on SR-1 and the highway poses a risk to successful dispersal (USFWS 1998). The protection of native riparian habitat is vital for their recovery, as these serve as travel corridors, potential den sites, and feeding grounds.

Permanent impacts to potential PAMB habitat include installation of riprap covering approximately 0.0360 acre, which is significant in the PAMB's already small and isolated home range. To prevent permanent loss of habitat and connectivity for the PAMB, CDFW recommends Caltrans consider a bridge design alternative that spans the bankfull channel and minimizes the number of foundation components within the bankfull channel and floodplain (as stated in Recommendation 1 above). In addition to benefits to PAMB, a clear span bridge provides an opportunity to enhance connectivity for a variety of terrestrial species. Wildlife benches added in locations that remain dry for most of the year provide a proven pathway for connectivity. If Caltrans continues with the current plan to install new riprap, CDFW recommends site specific minimization and mitigation measures for the permanent loss of PAMB riparian habitat, in consultation with USFWS and CDFW.

9. Roadway Stormwater Run-off

The MND contains Water Quality and Stormwater Runoff Standard Measures and Best Management Practices for construction activities, but does not specifically address post-Project, on-going roadway stormwater run-off to tributaries. Given the increased awareness of impacts associated with deleterious substances in roadway stormwater run-off

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(e.g., 6PPD-quinone[3]) reaching waterbodies with aquatic life, the Project should include stormwater-management approaches to treat road run-off before it reaches streams (**Recommendation 9**). This is of particular concern for stormwater runoff into the Garcia River, which contains Coho Salmon and other special status fish species.

10. Compensatory Mitigation

The MND should contain a Mitigation Monitoring and Reporting Plan (MMRP) with specific performance standards (CEQA Guidelines, § 15097). MMRP measures should include specific details on implementation unless the MND explains why it's impractical or infeasible to provide those details at this time. If specific details are not included and compliance with a regulatory permit is identified as mitigation, the MND mitigation measures should include the specific performance standards the mitigation will achieve so there is substantial evidence in the record that the mitigation will reduce significant impacts to the specified performance standards (CEQA Guidelines 15126.4(a)(1)(B)). Additionally, the impacts associated with mitigation implementation, as well as mitigation permitting, should be addressed in the MND when considering the Project's "whole of the action" (CEQA Guidelines, §§ 15003(h), 15063(a)(1), 15378(a), & 15126.4 (a)(1)(D)).

Therefore, the MND should include specific details regarding mitigation measure performance standards as well as potential impacts and permitting requirements associated with mitigation implementation **(Recommendation 10)**.

[3] 6PPD stands for the chemical N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine. This chemical prevents car tires from breaking down. When exposed to air, 6PPD reacts with ozone to create 6PPD-quinone, which can contaminate waters and is lethal to coho salmon (WA Dept. Ecology, 2024)

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11. Special Status Species Observations

CEQA requires that information developed in projects be incorporated into a database (Public Resources Code section 21003(e)). Report any special status species detected during Project surveys or construction monitoring to the California Natural Diversity Database (CNDDB) **(Recommendation 11)**. The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Summary of Recommendations

1. Absent of additional analysis (Recommendations 2-7) and coordination with CDFW prior to CEQA finalization, Caltrans should prepare an Environmental Impact Report that thoroughly assesses a range of project alternatives, including alternative pier stabilization designs and bridge replacement.

2. CDFW recommends the Lead Agency develop and evaluate a bridge design alternative that spans the bankfull channel and minimizes the number of foundation components within the bankfull channel and floodplain. The Lead Agency should evaluate whether this alternative would provide greater long-term capacity for the channel to accommodate lateral migration, sediment transport, flood flows, and other natural fluvial processes, while improving adaptability to future changes in hydrology and sea level rise over the service life of the replacement bridge.

3. CDFW recommends the Lead Agency evaluate the long-term geomorphic effectiveness of the proposed partially grouted rock riprap around Piers Three and Four. This should include a geomorphic assessment evaluating the historical trajectory and potential future direction of lateral channel migration through the existing Garica River Bridge.

4. CDFW recommends the Lead Agency evaluate the appropriateness of the proposed partially grouted rock riprap in consideration of the documented lateral migration of the channel. FHWA guidance distinguishes between countermeasures intended to address local bridge scour and those intended to address stream instability. CDFW further

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recommends the Lead Agency evaluate whether a countermeasure specifically designed to accommodate or address lateral channel instability, or a bridge configuration that reduces the number of in-channel foundations, would provide a more appropriate long-term solution.

5. CDFW recommends the Lead Agency evaluate the potential effects of the proposed armoring within and immediately adjacent to the bridge opening, including changes in hydraulic roughness, boundary shear stress, bed-material mobility, sediment transport, and the redistribution of flow forces and sediment at the riprap transitions. The analysis should consider the existing gravel-bed conditions and proposed riprap and determine whether the treatment could alter local channel mechanics, sediment continuity, or geomorphic processes beyond the immediate footprint of the scour countermeasure.

6. CDFW recommends the Lead Agency evaluate the feasibility and expected hydraulic and performance of geomorphically based channel stabilization measures in comparison with the proposed partially grouted rock riprap. The evaluation should consider whether a geomorphically based approach can address the existing scour condition while minimizing permanent channel armoring and maintaining the natural mobility and function of the channel over the long term.

7. CDFW recommends the Lead Agency perform additional technical studies to evaluate the hydraulic and geomorphic performance of the proposed project and alternatives. These analyses include hydrological, hydraulic and scour, geomorphic and channel migration, sediment-transport and bed-mobility, large wood and sediment passage, alternative design and geomorphic stabilization, and long-term performance and maintenance.

8. CDFW recommends early coordination with CDFW wildlife connectivity staff to discuss Project features that could minimize impacts to wildlife connectivity. Possible features include construction of dry benches on the riverbank under the bridge to facilitate the crossing of terrestrial wildlife during rain events.

9. Given the increased awareness of impacts associated with deleterious substances in roadway stormwater run-off (e.g., 6PPD-quinone) reaching waterbodies with aquatic life, CDFW recommends the Project include

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stormwater-management approaches to treat road run-off before it reaches streams.

10. CDFW recommends the MND contain an MMRP with specific performance standards. MMRP measures should include specific details on implementation so there is substantial evidence in the record that the mitigation will reduce the significant impacts to the specified performance standards. Additionally, the impacts associated with mitigation implementation, as well as mitigation permitting, should be addressed in the MND when considering the Project's "whole of the action" (CEQA Guidelines, §§ 15003(h), 15063(a)(1), 15378(a), & 15126.4 (a)(1)(D)).

11. CDFW recommends that any observations of special status species detected during Project surveys or construction monitoring be submitted to the CNDDB.

Thank you for the opportunity to comment on this MND. CDFW staff are available to meet with you to consult with or address the contents of this letter in greater depth. If you have questions on this matter or would like to discuss these recommendations, please contact Senior Environmental Scientist Specialist Greg O'Connell at Gregory.OConnell@Wildlife.ca.gov and Senior Hydraulic Engineer Rick Macala at Rick.Macala@Wildlife.ca.gov.

Sincerely,

DocuSigned by:
Jason Roberts
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Jason Roberts, Regional Manager
Northern Region

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Citations

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