

FINDINGS

CALIFORNIA DEPARTMENT OF TRANSPORTATION FINDINGS FOR THE ALAMEDA CREEK BRIDGE REPLACEMENT PROJECT

THE PROJECT PROPOSES TO REPLACE THE ALAMEDA CREEK BRIDGE AND REALIGN THE BRIDGE APPROACHES ON SR-84 FROM POSTMILE 13.0 to 13.6.

Biological Resources:

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on oak woodland natural communities.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The project would result in temporary and permanent impacts to coastal oak woodland habitat. Table 18 in Section 2.3.1.2 of the FEIR identifies the impacts to coastal oak woodland with the implementation of the Build Alternative, Alternative 3B. Permanent impacts would involve conversion of habitat to a built environment as a result of project features, construction activities, and the removal of trees. Temporary impacted areas would involve damage and/or disruption to the oak woodland habitat due to construction activities occurring near them, but the impacted areas would be restored.

Through the implementation of the avoidance, minimization, and mitigation measure summarized below, the impacts to oak woodland would be reduced and mitigated. Please see Section 2.3.1.3 of the FEIR for more details.

- UPLAND TREES-1. During the design phase of the project, California Department of Transportation's (Caltrans) Office of Biological Science and Permits would work with the Caltrans Design team to avoid and minimize project impacts to upland trees. Efforts to preserve trees in place (by designating trees on plan sheets and marking trees with Environmentally Sensitive Area fencing) would be made to avoid or minimize project impacts to trees located in temporarily impacted areas. For upland trees that are removed, Caltrans would provide tree replacement on-site at a minimum 1:1 ratio in the existing SR-84 alignment. Caltrans anticipates that no off-site planting would be needed for upland trees as of July 2017. However, in the event that off-site planting is determined necessary, potential planting locations would be identified working with local stakeholders, private landholders, and public agencies. Upland trees would be planted within two years of completion of the Alameda Creek Bridge Replacement Project construction and would be monitored for three years following the planting to ensure that the mortality rate does not exceed 30% of all upland trees planted.

Findings

- NATURAL COMMUNITIES (NAT COM)-1. Worker Environmental Awareness Training. All construction personnel will attend a mandatory environmental education program delivered by a biologist prior to working on the project. The biologist would be approved by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). At a minimum the training will include a description of listed species; migratory birds and their habitats; the occurrence of these species within the action area; an explanation of these species and protection under regulations; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction crews and project personnel entering the project footprint.
- NAT COM-17. Environmentally Sensitive Area Fencing. Prior to ground disturbance, active areas within the project footprint will be delineated with Environmentally Sensitive Area fencing to prevent the encroachment of construction personnel and equipment outside the described project footprint. The fencing will be removed after all construction equipment is removed from those segments of the project.

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on Niles Canyon Riparian Corridor.

Findings:

Changes or alterations that have been required in, or incorporated into, the project, mitigation will be implemented to lessen the significant environmental impact as identified in the FEIR. With the implementation of avoidance, minimization, and/or mitigation measures, the impact to the Niles Canyon Riparian Corridor could not be reduced to a less than significant impact for the project area and would remain significant.

Statement of Facts:

The project would result in temporary and permanent impacts to riparian habitat. Table 25 in Section 2.3.1.2 identifies the impacts to riparian habitat with the implementation of the Build Alternative. The project has been designed to minimize removal of trees within riparian habitat. In addition, the new bridge would provide more shade to the creek than the existing structure which steelhead can use as potential rearing habitat.

The lack of development and disturbance within the Niles Canyon Riparian Corridor over the past 100 years have preserved Alameda Creek as an intact and contiguous riparian corridor. There are few hardscape areas that can be removed without impacts to other uses in Niles Canyon. As a result, opportunities and areas to restore or mitigate onsite within the Niles Canyon Corridor are limited or not practicable. Caltrans would continue to discuss and coordinate with CDFW and Regional Water Quality Control Board (RWQCB) about riparian mitigation opportunities in Alameda Creek tributaries and the Alameda Creek watershed.

Through the implementation of the avoidance, minimization, and mitigation measure summarized below, NAT COM-1, and NAT COM-17, the impacts to the Niles Canyon

Riparian Corridor would be reduced and mitigated. Please see Section 2.3.1.3 of the FEIR for more details.

- **RIPARIAN TREES-1.** During the design phase of the project, Caltrans' Office of Biological Science and Permits would work with the Caltrans Design team to avoid and minimize project impacts to riparian trees. Efforts to preserve trees in place (by designating trees on plan sheets and marking trees with Environmentally Sensitive Area fencing) would be made to avoid or minimize project impacts to trees located in temporarily impacted areas. Trees removed from the riparian zone would be replaced at a minimum 3:1 ratio on-site, to the maximum extent possible given space available. Caltrans anticipates a need for off-site riparian planting as of July 2017. Potential planting locations within the Alameda Creek watershed would be identified working with local stakeholders, private and/or public landholders, and public agencies. On-site riparian trees would be planted within two years of completion of the Alameda Creek Bridge Replacement Project construction and would be monitored for three years following the planting to ensure that the mortality rate does not exceed 30% of all riparian trees planted. Details for off-site planting and riparian tree planting success criteria would be determined during the design and permitting phase of the project with CDFW (1602 Streambed Alteration Agreement) and RWQCB (401 Certification).

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on wetlands and other waters.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Table 29 in Section 2.3.2.3 of the FEIR identifies the impacts to wetlands and other waters with the implementation of the Build Alternative. The project would result in temporary and minor permanent impacts to wetlands and other waters, however the overall long-term impact to wetlands and other waters within the project limits would be positive. The removal of the existing Alameda Creek Bridge (including in-stream columns), the removal of the weir located upstream of the existing bridge, and removal of the invasive giant reed and pampas grass populations within the project area would have a positive impact to wetlands and other waters. The removal of the hard structure will beneficially impact Alameda Creek by allowing the stream to take on a more natural morphology and facilitate the development of linear in-stream wetlands along the banks.

The removal of the weir could have a substantial impact to wetlands and other waters. However, avoidance, minimization, and/or mitigation measures will be implemented to reduce the impacts. Approximately 1,500 cubic yards of sediment deposition is currently impounded by the concrete weir. The removal of the weir would leave the impounded sediment in place to transport naturally downstream.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, the impacts to wetlands and other waters would be reduced and mitigated. Additionally, all temporarily impacted wetlands and other waters would be restored

and revegetated. Please see Section 2.2.2.4, 2.3.1.3, and 2.3.2.4 of the FEIR for more details.

- WATER-1. Temporary Sediment Retention and Release: Implement temporary structure (such as plywood cofferdam or a weir constructed with large cobbles) to retain the impounded sediment. The structure will be designed to withstand low to medium flows that would minimally disperse the impounded sediment and potentially cause nuisance sediment deposits that could impede passage by fish and other aquatic organisms.
- WATER-2. Staged Weir Removal: This measure consists of the gradual removal of the weir to minimize nuisance sediment deposits in downstream reaches. Portions of the weir would be selected for lowering or removal at any one time; the weir would be removed over the course of several years. This option allows the existing weir to moderate sediment dispersion and eliminates the need to construct a temporary structure.
- WATER-3. Draw Down Rate: Weir removal should accommodate the release of impounded water at a slow rate, taking place over the course of several days to minimize the risk of supersaturation and take of listed species.
- WATER-4. Vegetative Stabilization: After the weir is removed and the water level drops, this measure would strategically plant vegetation species with vigorous growth habits to stabilize some of the sediment in place. Emergent vegetation species, such as cattail and bulrush, would be planted along the margin of the low-flow channel, and riparian species, including willow, mulefat, California blackberry, and tall flatsedge, would be planted in the overbank areas.
- NAT COM-5. Water Diversion Structures. Cofferdam and/or water diversion will be constructed to exclude construction activities from adversely impacting the water quality of Alameda Creek while maintaining flow through the project area. The contractor will be required to submit a Water Diversion Plan to appropriate regulatory agencies for approval prior to construction.
- NAT COM-6. Water Quality Inspection. Water quality inspector(s) will inspect the construction site after a rain event to ensure that the stormwater Best Management Practices (BMPs) are adequate.
- NAT COM-13. Caltrans Standard BMPs. The potential for adverse effects to water quality will be avoided by implementing temporary and permanent BMPs outlined in Section 13-2 of the Caltrans Standard Specifications. Caltrans erosion control BMPs will be used to minimize any wind or water-related erosion. A Stormwater Pollution Prevention Plan (SWPPP) will be developed for the project, as one is required for all projects that have at least 1.0 acre of soil disturbance.
- WETLANDS-1. Compensatory mitigation under the Clean Water Act (CWA) at a minimum 1:1 ratio is required for all permanent wetland impacts. Proposed compensation for wetland impacts include removal of the concrete weir upstream of the existing bridge, removal of current in-stream bridge columns for the existing bridge, removal of invasive giant reed and pampas grass populations within the project area, and restoring and revegetating all temporarily impacted wetlands. These activities will off-set project effects by

allowing the stream to take on a more natural morphology, facilitating the development of linear in-stream wetlands along the banks, and removing a barrier to steelhead.

- WETLANDS-2. Permits. Caltrans will include a copy of all relevant permits, which include the CWA 401 Certification (RWQCB), BO (USFWS), Streambed Alteration Agreement (CDFW), and the Incidental Take Permit (CDFW), within the construction bid package of the proposed project. The Resident Engineer or their designee will be responsible for implementing the Conditions of the United States Army Corps of Engineers (USACE) 404 permit.

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on River Lamprey and Pacific Lamprey.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Direct impacts to lamprey may result from construction work within riverine or wetland portions of the project area. Indirect impacts may result from habitat exclusion and water quality degradation from erosion or sediment loading during construction activities. Indirect impacts as a result of water quality degradation are unlikely with the implementation of avoidance and minimization measures and Caltrans Standard BMPs.

The removal of the weir could have a substantial impact to lamprey. However, avoidance, minimization, and/or mitigation measures will be implemented to reduce the impacts. Approximately 1,500 cubic yards of sediment deposition is currently impounded by the concrete weir. The removal of the weir would leave the impounded sediment in place to transport naturally downstream.

Long-term impact to impacts to lamprey habitat are expected to be beneficial as the project would include the removal of the existing Alameda Creek Bridge (including in-stream columns), the removal of the weir located upstream of the existing bridge, and removal of the invasive giant reed and pampas grass populations within the project area. This would allow the stream to take on a more natural morphology and facilitate the development of linear in-stream wetlands along the banks.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, WATER-1 through WATER-4, NAT COM-1, NAT COM-5, NAT COM-6, the impacts to River Lamprey and Pacific Lamprey would be reduced and mitigated. Please see Section 2.2.2.4, 2.3.1.3, and 2.3.5.4 of the FEIR for more details.

- NAT COM-2. Pre-construction Surveys. Pre-construction surveys will be conducted no more than 20 calendar days prior to any initial ground disturbance by an USFWS and CDFW approved biologist for listed wildlife and plant species.

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- THREATENED & ENDANGERED SPECIES (T&E)-3. Biological Monitoring. The USFWS and CDFW approved biologist(s) will conduct clearance surveys immediately prior to the initial ground disturbance, be on site during initial ground disturbing activities, and thereafter as needed to fulfill the role of the approved biologist as specified in project permits.
- T&E-5. Work Window. All work within suitable aquatic habitat for steelhead and California red-legged frog will occur between June 1 and October 15, when there is less potential for an individual to enter the work area.
- WATER-6. Caltrans would incorporate stormwater treatment systems to remove pollutants from roadway runoff. Caltrans would consider best practice and best available technology in selecting the stormwater treatment systems. The stormwater treatment systems are part of post-construction BMPs. The preferred technology would be bioretention systems because they address both treatment and hydromodification. Biostrips would also be considered because they can be placed in the clear recovery zone (defined as an area clear of fixed objects adjacent to the traveled way).

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on western pond turtle.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Direct impacts to western pond turtle may result from relocation efforts and earth-moving activities in potential habitat. Indirect impacts may result from habitat exclusion and water quality degradation from erosion or sediment loading during construction activities. Indirect impacts as a result of water quality degradation are unlikely with the implementation of avoidance and minimization measures and Caltrans Standard BMPs. The removal of potential basking habitat is minimal due to substantial amount of alternative basking habitat available in the surrounding area.

The removal of the weir could have a substantial impact to western pond turtle. However, avoidance, minimization, and/or mitigation measures will be implemented to reduce the impacts. Approximately 1,500 cubic yards of sediment deposition is currently impounded by the concrete weir. The removal of the weir would leave the impounded sediment in place to transport naturally downstream.

Long-term impacts to western pond turtle habitat are expected to be beneficial as the project would include the removal of the existing Alameda Creek Bridge (including in-stream columns), the removal of the weir located upstream of the existing bridge, and removal of the invasive giant reed and pampas grass populations within the project area. This would allow the stream to take on a more natural morphology and facilitate the development of linear in-stream wetlands along the banks.

Through the implementation of the avoidance, minimization, and mitigation measure, WATER-1 through WATER-4, NAT COM-1, NAT COM-2, NAT COM-5, NAT COM-6, T&E-3, T&E-5, and WATER-6, the impacts to western pond turtle would be reduced and mitigated. Please see Section 2.2.2.4, 2.3.1.3, and 2.3.5.4 of the FEIR for more details.

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on roosting bats.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The removal of the existing Alameda Creek Bridge would permanently remove a known day and night roost site for several species of bats, including the Yuma myotis maternity roost. Avoidance, minimization, and/or mitigation measures were developed to provide on-site habitat for bats in the new bridge structure by the construction of new daytime crevice roosts and recessed night roosts out of concrete into the underside of the new bridge structure.

The project is expected to have beneficial long-term impact to bat foraging habitat as the project would include the removal of the existing Alameda Creek Bridge (including in-stream columns), the removal of the weir located upstream of the existing bridge, and removal of the invasive giant reed and pampas grass populations within the project. This would allow the stream to take on a more natural morphology and facilitate the development of linear in-stream wetlands along the banks.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, the impacts to roosting bats would be reduced and mitigated. Please see Section 2.3.4.4 of the FEIR for more details.

- BATS-1. No more than two weeks prior to tree removal, a qualified biologist will conduct a pre-construction survey for crevice and cavity roosting habitat in trees within the project area that are 12 inches or greater in diameter at breast height. If active roosting habitat is identified, minimization measures will be identified through coordination with CDFW.
- BATS-2. A roosting bat exclusion plan will be implemented during the non-breeding season. The bat exclusion plan would describe installation of a physical barrier, which may include plywood, plastic tarps, canvas tarps, and filling foam, and would address how oneway exclusion devices would be used to allow bats to safely exit the current bridge prior to its removal. This physical barrier would prevent bats from re-entering their roost and induce them to find alternate roost habitat. Exclusion of bats would only occur between October and March to avoid the reproductive season. Specific day and night bat roost avoidance and minimization measures would be further developed through technical assistance with CDFW and bat specialists.

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- BATS-3. To compensate for the loss of day and night roosting habitat from the removal of the existing bridge, Caltrans would incorporate daytime crevice roosts and recessed night roosts constructed out of concrete into the underside of the new bridge structure. Bridge elements and configurations that support night and day roosting would be installed where feasible in the new Alameda Creek Bridge.

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on Alameda Whipsnake (AWS) and its habitat.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The project would result in temporary and permanent impacts to AWS habitat. In Section 2.3.5.3 of the FEIR, Table 33 identifies the impacts to AWS habitat and Table 34 identifies the impacts to AWS critical habitat with the implementation of the Build Alternative. The project would not create any additional fragmentation of habitat or fragmentation of the Critical Habitat Unit.

Direct effects to individual AWS may occur throughout the project area as a result of construction activities, including site preparation, use of heavy equipment, placement of new permanent structures, and the placement of temporary and permanent fills within dispersal and foraging habitat. Activities during construction could result in injury or death in the construction area. However, there is a low potential for direct mortality of individuals due to the cryptic natures of AWS and work being conducted during the dry season. Indirect impacts may result from habitat exclusion and water quality degradation from erosion or sediment loading during construction activities. Indirect impacts as a result of water quality degradation are unlikely with the implementation of avoidance and minimization measures and Caltrans Standard BMPs.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, NAT COM-1, T&E-3 and T&E-5, the impacts to Alameda Whipnake and its habitat would be reduced and mitigated. Please see Section 2.3.1.3 and 2.3.5.4 of the FEIR for more details.

- AWS-1. Compensation for the minor disturbance to AWS Critical Habitat Unit 3 for AWS would occur through on-site restoration of temporarily impacted areas (at a 1:1 ratio), onsite restoration and enhancement of the existing SR-84 roadway and through compensation for prolonged temporarily (at 1.5:1 ratio) and permanently impacted areas (at a 3:1 ratio) through a combination of off-site habitat preservation and on-site restoration and enhancement activities.
- T&E-1. Permits. Caltrans will include a copy of all relevant permits within the construction bid package of the proposed project. The Resident Engineer or their designee will be

responsible for implementing the Conservation Measures and Terms and Conditions of the USFWS Biological Opinion (BO) and the CDFW Incidental Take Permit.

- T&E-2. Biological Monitor Approval. Caltrans will submit the names and qualifications of the biological monitor(s) for USFWS approval prior to initiating construction activities for the proposed project.
- T&E-4. Listed Species On Site. The Resident Engineer will immediately contact the agency-approved project biologist(s) in the event that an AWS or CRLF is observed within a construction zone. The Resident Engineer will suspend construction activities within a 50-foot radius of the animal until the animal leaves the site voluntarily or is removed by the agency-approved biologist to a release site using USFWS-approved transportation techniques.
- T&E-6. Cover Boards. The agency-approved biologist will place cover boards in strategic locations throughout the project footprint during the pre-construction surveys. During construction, these cover boards will be checked on a daily basis for CRLF and AWS when the agency-approved biologist is onsite.

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on California red-legged frog (CRLF).

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The project would result in temporary and permanent impacts to CRLF habitat. Table 32 in Section 2.3.5.3 of the FEIR identifies the impacts to CRLF habitat with the implementation of the Build Alternative. The project would not result any anticipated effects to CRLF breeding habitat, increased barriers to wildlife movement, or increased roadside mortality.

Direct effects to individual CRLF may occur throughout the project area as a result of construction activities, including site preparation, use of heavy equipment, placement of new permanent structures and the placement of temporary and permanent fills within dispersal and foraging habitat. Activities during construction could result in injury or death in the construction area. However, there is a low potential for direct mortality of individuals due to the cryptic natures of AWS and work being conducted during the dry season. Indirect impacts may result from habitat exclusion and water quality degradation from erosion or sediment loading during construction activities. Indirect impacts as a result of water quality degradation are unlikely with the implementation of avoidance and minimization measures and Caltrans Standard BMPs.

The removal of the weir could have a substantial impact to CRLF. However, avoidance, minimization, and/or mitigation measures will be implemented to reduce the impacts.

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Approximately 1,500 cubic yards of sediment deposition is currently impounded by the concrete weir. The removal of the weir would leave the impounded sediment in place to transport naturally downstream.

Long-term impact to impacts to CRLF habitat are expected to be beneficial as the project would include the removal of the existing Alameda Creek Bridge (including in-stream columns), the removal of the weir located upstream of the existing bridge, and removal of the invasive giant reed and pampas grass populations within the project area. This would allow the stream to take on a more natural morphology and facilitate the development of linear in-stream wetlands along the banks.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, WATER-1 through WATER-4, NAT COM-1, T&E-1 through T&E-6, the impacts to CRLF and its habitat would be reduced and mitigated. Please see Section 2.2.2.4, 2.3.1.3, and 2.3.5.4 of the FEIR for more details.

- CRLF-1. Caltrans would provide compensation for impacts to CRLF through on-site restoration of temporarily impacted areas (at a 1:1 ratio), and compensation for prolonged temporarily (at a 1:5:1 ratio) and permanently impacted areas (at a 3:1 ratio) through a combination of off-site habitat preservation and on-site restoration and enhancement activities. Proposed compensation by Alternative is shown in Table 36. On-site restoration and enhancement activities would consist of the restoration of disturbed areas to pre-existing or better quality. Success would be measured by total % ground cover and % survival of planted trees. On-site trees would be monitored for three years following the planting to ensure that the mortality rate does not exceed 30% of all trees planted, with reporting to CDFW and USFWS. Landscaping of impact areas would include the planting of native plants associated with California bay/coast live oak woodland, fresh water emergent wetland, valley foothill riparian, and coastal scrub habitat. A portion of this proposed compensation will be covered by the reclamation of the current bridge columns and roadway approaches. Caltrans anticipates a need for off-site compensation and plans to purchase multi-species bank credits from Ohlone West or Ohlone Preserve Conservation Banks. As of July 2017, Ohlone Preserve has credits available for California red-legged frog and the project is within the approved service area for this species. If Ohlone Preserve no longer has credits available by the time of the credit purchase (in advance of the project construction), Caltrans would purchase bank credits from Ohlone West. The most recent information states that the bank credits are available as of July 2017, and therefore, they would be open for purchase well in advance of the project's projected start date. Funding for the purchase of compensatory mitigation credits is designated within the project's right of way data sheet. In accordance with permit conditions and consultation with the resource agencies, approved banking credits shall be purchased within six months prior to the start of the bridge construction phase. In the event that bank credits are not available, Caltrans would purchase and conserve habitat to address the species' requirement.
- T&E-7. Wire Mesh for Dewatering Pumps. If pumping will be used for dewatering, the intakes will be completely screened with wire mesh no larger than 0.2-inch to prevent CRLF from entering the pump.

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on steelhead.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The project would result in temporary and permanent impacts to steelhead habitat. Table 35 in Section 2.3.5.3 of the FEIR identifies the impacts to steelhead habitat with the implementation of the Build Alternative. Temporary impacts to habitat in the project area for protected steelhead may result from installation of water diversion structures, placement of falsework, new bridge construction, and removal of the original bridge structure within the dry working environment. Permanent impacts would result from the installation of the new bridge columns, but are anticipated to be beneficial to Alameda Creek and steelhead habitat. The new bridge columns would be smaller than the existing pier walls in the stream channel resulting in a reduction of hard structure in Alameda Creek.

Indirect impacts may result from habitat exclusion and water quality degradation from erosion or sediment loading during construction activities. Indirect impacts as a result of water quality degradation are unlikely with the implementation of avoidance and minimization measures and Caltrans Standard BMPs. Temporary impacts to habitat in the project area for protected steelhead may result from installation of water diversion structures, placement of falsework, new bridge construction, and removal of the original bridge structure within the dry working environment.

The removal of the weir could have a substantial impact to steelhead. However, avoidance, minimization, and/or mitigation measures will be implemented to reduce the impacts. Approximately 1,500 cubic yards of sediment deposition is currently impounded by the concrete weir. The removal of the weir would leave the impounded sediment in place to transport naturally downstream.

Long-term impacts to steelhead habitat are expected to be beneficial as the project would include the reduction of hard structure within the creek, removal of the existing bridge footings within the creek channel, and removal of the invasive giant reed and pampas grass populations within the project area. This would allow the stream to take on a more natural morphology and remove a low-flow passage barrier to steelhead. The new bridge would also provide more shade to the creek than the existing bridge which steelhead can use as potential rearing habitat.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, WATER-1 through WATER-4, NAT COM-1, NAT COM-2, NAT COM-5, NAT COM-6, T&E-1 through T&E-3, T&E-5, the impacts to steelhead and its habitat would be reduced and mitigated. Please see Section 2.2.2.4, 2.3.1.3, and 2.3.5.4 of the FEIR for more details.

- STEELHEAD-1. Fish passage between Alameda Creek and San Francisco Bay is blocked within the City of Fremont as of July 2017, by a concrete grade control structure. As a

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result, these fish are not currently considered to be anadromous Central California Coast DPS steelhead and do not receive protection under the FESA. ACWD is scheduled to install a fish ladder that will circumvent this structure in 2019 (ACWD 2014). As a result, fish passage between San Francisco Bay and the Alameda Creek watershed would be restored, and steelhead within Alameda Creek will be included by NMFS as part of the federally threatened Central California Coast steelhead DPS. Caltrans has concluded that a “No Effect” determination applies under the Federal Endangered Species Act based on the fact that no steelhead are currently present; however, Caltrans acknowledges the planned removal of various obstructions and installation of fish ladders in Alameda Creek (including, but not limited to, the BART weir) and will be implementing avoidance and minimization measures in anticipation of improved fish passage through the corridor. Permanent effects to steelhead habitat as a result of the proposed project would be off-set through the restoration of riparian, wetland, and riverine areas currently occupied by the existing Alameda Creek Bridge piers and abutments and the removal of invasive giant reed populations in the project area. Additionally, all Alternatives propose to remove the remnants of the existing footings and concrete wall of a former bridge, located upstream of the existing Alameda Creek Bridge. These bridge footings and concrete wall act as a weir and serve as a low-flow fish passage barrier. Removal or modification of the concrete weir during low-flow conditions would provide further connectivity to the creek system for juvenile steelhead. However, other features upstream of the project area would prevent connectivity of the entire Alameda Creek Watershed to the San Francisco Bay. Per preliminary discussion and consultation with the USACE, RWQCB, CDFW, and National Marine Fisheries Service (NMFS), the removal of these bridge footings would address anticipated compensatory mitigation requirements for project impacts under the federal Endangered Species Act (ESA) consultation and the following permits: 1602 Streambed Alteration Agreement and Clean Water Act (CWA) Section 404 and 401 permits.

Cultural Resources:

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on the Alameda Creek Bridge, a structure eligible to be listed on the Alameda County Register.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR. With the implementation of avoidance, minimization, and/or mitigation measures, the impact to the Alameda Creek Bridge could not be reduced to a less than significant impact for the project area and would remain significant.

Statement of Facts:

It was determined that the existing Alameda Creek Bridge could not be widened in place because it would require staged removal, which would be necessary to keep SR-84 open during construction. However, the existing bridge is not structurally adequate to carry traffic loads when removed in stages. Complete closure of SR-84 at the project location would sever the main regional connection between I-880 and I-680. Since existing bridge could not be widened in place, the project would demolish the existing Alameda Creek Bridge.

Through the implementation of the avoidance, minimization, and mitigation measures summarized below, the impacts to Alameda Creek Bridge would be reduced and mitigated. Please see Section 2.1.5.4 of the FEIR for more details.

- CULTURAL-3. Per preliminary consultation with the City of Fremont, Caltrans would place an interpretive panel that discusses the history of transportation in Niles Canyon and the Alameda Creek Bridge's role in it at the Vallejo Mill Park. The panel would be developed during the PS&E phase of the project and would be installed at Vallejo Mill Park within one year following construction completion.
- CULTURAL-4. Recordation efforts documenting the Alameda Creek Bridge structure will occur prior to demolition activities.

Hydrology and Water Quality:

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on water quality.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

Sediment released from the weir would be dispersed over a period of several decades to the downstream reaches. Sediment is also likely to deposit on the channel bed, and there may be some channel aggradation and filling of some pools. None of these sediment storage features are considered to be long-term sediment storage sites (more than 100 years), but they would all function to moderate the sediment wave as it moves downstream. Over the long-term, it is anticipated that nearly all of the sediment released from the project site would reach the flood control channel.

Through the implementation of the avoidance, minimization, and mitigation measures, WATER-1 through WATER-4, the impacts to water quality would be reduced and mitigated. The influence of sediment release would not result in adverse impacts on channel morphology and aquatic habitat, and would most likely cause adjustments that are within the range of natural variability. Please see Section 2.2.2.4 of the FEIR for more details.

Paleontological Resources:

Adverse Environmental Effects:

Implementation of the Build Alternative would have a significant impact on paleontological resources.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The Alameda Creek Bridge Replacement Project is located in an area with geologic units containing high sensitivity for producing paleontological resources. Specific locations of paleontological resources are unknown and impacts cannot be quantified or determined until construction begins. All ground disturbing activities associated with the construction of the project's eastern approach would impact the Panoche Formation. Paleontological resources within the Panoche Formation could exist at any layer or depth of ground disturbing activities.

Through the implementation of the avoidance, minimization, and mitigation measure summarized below, the impacts to paleontological resources would be reduced and mitigated. Please see Section 2.2.4.4 of the FEIR for more details.

- PALEONTOLOGY-1. A PMP defining specific mitigation measures and methods, will be prepared by a qualified paleontologist and implemented before construction begins. The PMP may include:
 - The presence of the Principal Paleontologist at pre-construction meetings to consult with the construction contractor.
 - Paleontological awareness training for construction workers to be provided for by the Principal Paleontologist.
 - Monitoring of ground disturbing activities such as excavation by the paleontological monitors, to be conducted under the supervision and/or at the direction of the Principal Paleontologist.
 - Temporary halting or diversion of construction activities in areas where fossils are discovered.
 - Preparation, sorting, and cataloging of fossils collected during the monitoring and salvage. Fossils are prepared to the point of identification, not display.
 - Curation of fossils, along with copies of all pertinent field notes, photos, and maps at a curation facility acceptable to Caltrans.
 - Preparation of the Paleontological Mitigation Report to document the results of the mitigation program.

Cumulative:

Adverse Environmental Effects:

When considering the effects of past, present, and future actions and projects in the Resource Study Area, implementation of the Build Alternative would result in a significant cumulatively considerable impact to Alameda Whipsnake and its habitat.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

Statement of Facts:

The project would result in temporary and permanent impacts to AWS critical habitat. Table 34 in Section 2.3.5.3 of the FEIR identifies the impacts to AWS critical habitat with the implementation of the Build Alternative. The project would not create any additional fragmentation of habitat or fragmentation of the Critical Habitat Unit.

Through the implementation of the avoidance, minimization, and mitigation measure AWS-1, cumulative impacts to Alameda Whipnake and its habitat would be reduced and mitigated. Please see Section 2.3.5.4 of the FEIR for more details

Adverse Environmental Effects:

When considering the effects of past, present, and future actions and projects in the Resource Study Area, the Build Alternative would result in a significant cumulatively considerable impact to cultural resources (architectural history).

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the FEIR. With avoidance, minimization, and/or mitigation measures, the impact to cultural resources (architectural history) could not be reduced to a less than significant impact for the project area and would remain significant.

Statement of Facts:

It was determined that the existing Alameda Creek Bridge could not be widened in place because it would require staged removal, which would be necessary to keep SR-84 open during construction. However, the existing bridge is not structurally adequate to carry traffic loads when removed in stages. Complete closure of SR-84 at the project location would sever the main regional connection between I-880 and I-680. As a result, the project would demolish the existing Alameda Creek Bridge.

Through the implementation of the avoidance, minimization, and mitigation measures CULTURAL-3 and CULTURAL-4, the impacts to Alameda Creek Bridge would be reduced and mitigated. Please see Section 2.1.5.4 of the FEIR for more details.