2017 STORM DAMAGE REHABILITATION
SITE 80: DEER CREEK LEVEE EROSION REPAIR

Initial Study

California Department of Water Resources

January 2019

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Acronyms and Abbreviations

BMP	best management practice
CDFW	California Department of Fish and Wildlife
DWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO2	carbon dioxide
CRHR	California Register of Historical Resources
CVRWQCB	Central Valley Regional Water Quality Control Board
GGERP	Greenhouse Gas Emissions Reduction Plan
GHG	greenhouse gas
CH4	methane
NAHC	Native American Heritage Commission
NEIC	Northeast Information Center
$mtCO_2e$	metric tons of carbon dioxide equivalent
NMFS	National Marine Fisheries Service
N2O	nitrous oxide
OHWM	ordinary high water mark
O&M	operations and maintenance
PM10	particulate matter less than 10 microns in diameter
PRC	Public Resources Code
SPFC	State Plan of Flood Control
TCAPCD	Tehama County Air Pollution Control District
TCR	tribal cultural resource
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Project Information

1. Project Title	2017 Storm Damage Rehabilitation Site 80: Deer Creek Levee Erosion Repair
2. Lead Agency Name and Address	California Department of Water Resources Division of Flood Management 3310 El Camino Ave. Sacramento, CA 95821
3. Contact Person and Phone Number	Kip Young Division of Flood Management Kip.Young@water.ca.gov (916) 574-2559
4. Project Sponsor's Name	California Department of Water Resources
5. Project Location	Site 80 is located upstream of Leininger Road (Red Bridge) on the left bank of Deer Creek (Levee Mile 1.6, Unit 1), approximately 3.3 miles northeast of the town of Vina in Tehama County.
6. General Plan Designation	Valley Floor Agricultural
7. Zoning	AG-2: Agricultural/Valley District
8. Description of Project	Waterside erosion repair of a 175-foot section of levee along Deer Creek.
9. Surrounding Land Uses and Setting	Surrounding land uses include agriculture.
10. Other Public Agencies Whose Approval may be Required	The proposed project may require permits or approvals from the following: United States Army Corps of Engineers, National Marine Fisheries Service, United States Fish and Wildlife Service, Central Valley Water Quality Control Board, California Department of Fish and Wildlife, and California Office of Historic Preservation

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1?	No requests have been received by the lead agency. However, a tribal engagement letter was sent pursuant to the California Department of Water Resources and California Natural Resources Agency tribal engagement policies.

Chapter 1: Introduction

High flow conditions during the winter of 2016/2017 resulted in erosion and other damage at numerous levees managed by the California Department of Water Resources (DWR) or other local maintaining agencies. The State Plan of Flood Control (SPFC) levees at multiple sites were damaged to such an extent that the flood control performance was compromised, presenting a potential public safety risk, which could result in flooding, property damage, or loss of life within the protected area during the next high water event. In response, DWR implemented the 2017 Storm Damage DWR Rehabilitation Program at several emergency repair sites. DWR repaired emergency sites during fall of 2017 (Phases 1 and 2) and summer of 2018 (Phase 3). The previous emergency repairs under Phases 1 through 3 were considered Statutory Exempt pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15269 for emergency projects that are necessary to maintain levee structures essential to public health, safety, and welfare due to the high potential for levee failures without repair.

Non-emergency repair sites (Phases 4 and 5), which are subject to CEQA compliance, were identified during summer-fall of 2019 and 2020. Site 80 on Deer Creek is considered one of the non-emergency repair sites. Repair of the waterside erosion at Site 80 is presented herein as the proposed project.

1.1 Purpose and Intended Use of this Initial Study

The purpose of this Initial Study is to describe the potential environmental impacts of the proposed project, and to describe measures that would avoid or mitigate potentially significant environmental impacts. Under CEQA, an initial study helps a lead agency determine whether a project would have a significant effect on the environment and, in turn, determine whether a negative declaration, mitigated negative declaration, or environmental impact report should be prepared.

Chapter 2: Project Description

A description of the proposed project is presented below.

2.1 Project Location

The proposed project is located on the left bank of Deer Creek (Levee Mile 1.6, Unit 1), approximately 0.3 mile upstream from Leininger Road (Red Bridge) and 3.3 miles northeast of the town of Vina in Tehama County (**Figures 1 and 2**). The project is located in Section 5, Township 24 North, Range 1 West of the Vina 7.5-minute United States Geological Survey (USGS) quadrangle map.

Figure 1. Vicinity Map for the Site 80: Deer Creek Levee Erosion Repair Project.

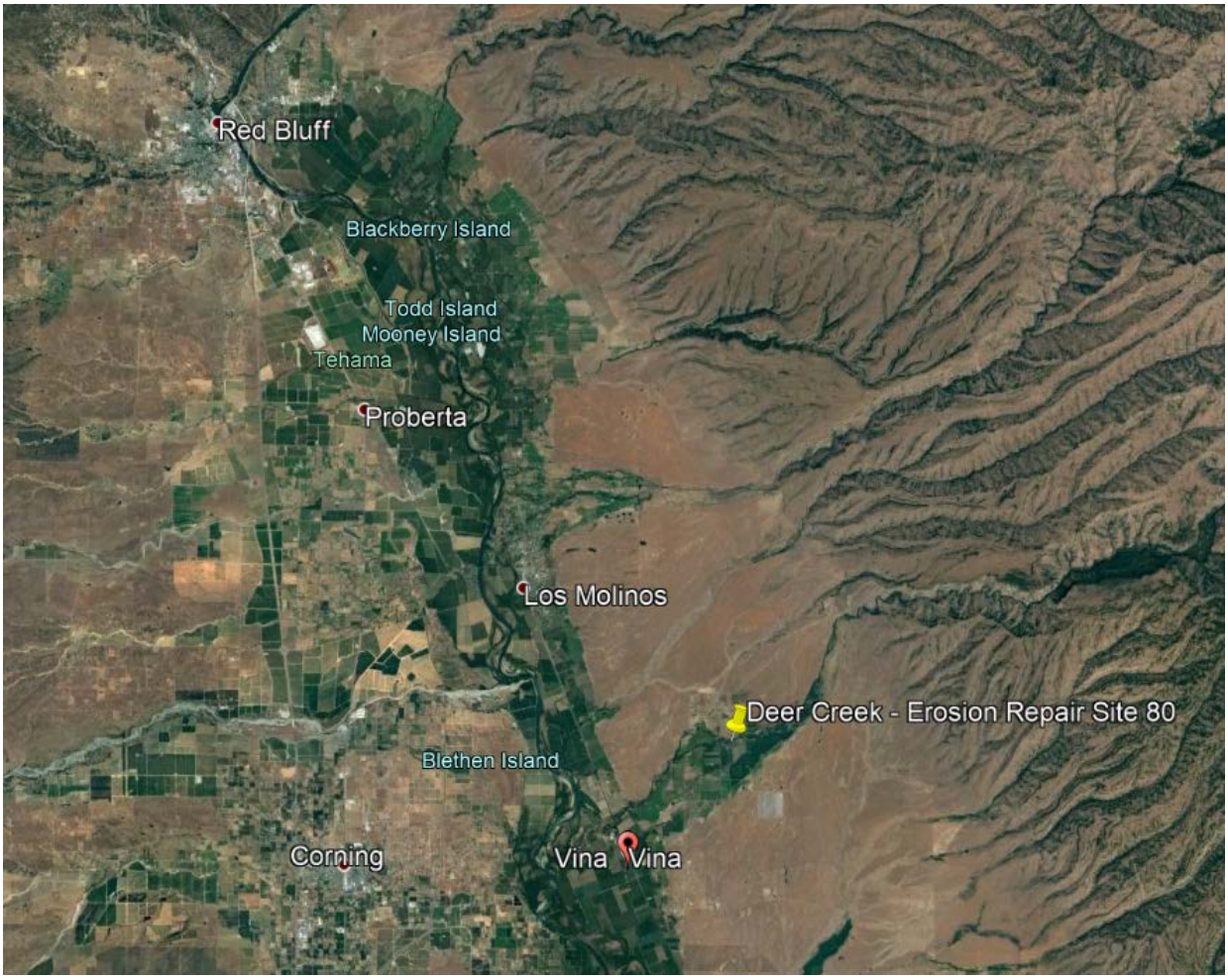
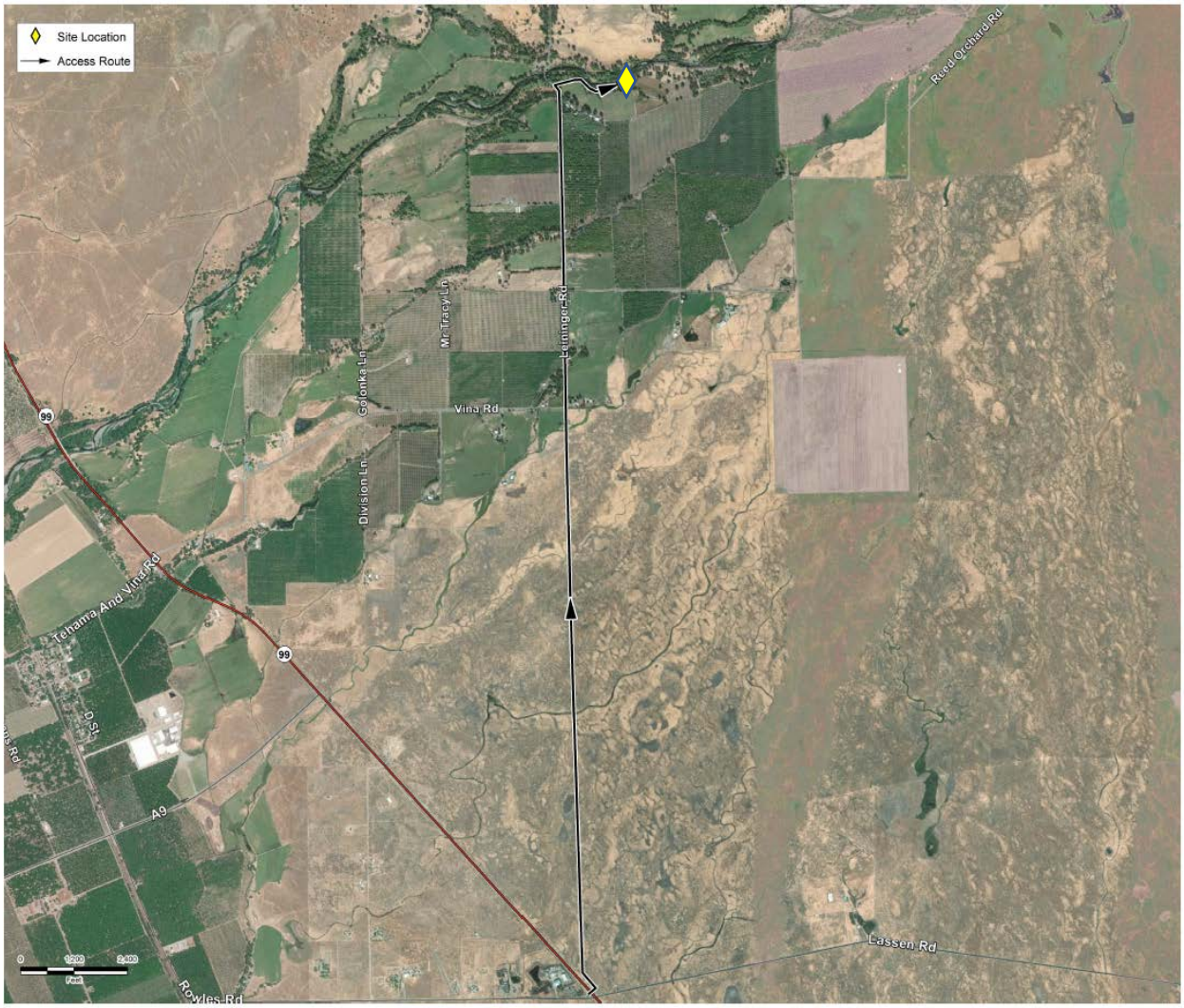


Figure 2. Site 80: Deer Creek Levee Erosion Repair Project Location



2.2 Site Access

Site 80 is accessed from State Route 99 near the Town of Vina. From State Route 99, turn onto Vina Road or Lassen Road (approximately 2.66 miles south of Vina Road) heading east. Turn left heading north onto Leininger Road. Travel for 3.86 miles and turn right, heading east onto the Deer Creek levee (gravel road) prior to the bridge crossing Deer Creek. Travel east on the levee for 0.31 miles to the waterside erosion site. The levee is accessed from a locked gate which is maintained by Tehama County Flood Control and Water Conservation District.

2.3 Site Conditions

Site 80 exhibits significant erosion from the water side levee toe up to the middle of the levee slope (**Figure 3**). The repair area is approximately 175 linear feet and 0.1 acre in size. The waterside slope at the location of erosion is approximately 2:1 (horizontal:vertical) from the levee hinge to the bank bench and then steepens to a vertical drop in various locations. The bank

contains erosion scarps of 3-4 feet that rise to approximately mid-slope in some locations. The levee slope and bank do not contain riprap and are underlain with lenses of creek pebble-cobble. The repair footprint is partially covered with non-native grasses and forbs on the upper bank and slope. The eroding bank is mostly bare substrate with California grape (*Vitas californica*) creeping in from the edges. A fallen valley oak (*Quercus lobata*) within the repair footprint would be removed by the Tehama County Flood Control and Water Conservation District (local maintaining agency) prior to any high flow event to avoid additional scouring of the levee.

Figure 3. Extent of levee erosion at Site 80.

2.4 Proposed Project

Implementation of the proposed project would include construction activities at the erosion repair site, staging of vehicles and equipment in a designated staging area, and storage of imported materials at a designated interim laydown area (**Figure 4**).

Figure 4. Proposed construction work area, staging and laydown areas, and haul and access routes for Site 80 erosion repair.

The waterside erosion repair at Site 80 would include the following construction activities:

1. Install temporary fencing around elderberry shrubs located adjacent to the repair site and staging area.

2. Identify type of tree protection and necessary avoidance. Undermined trees that are not leaning or determined not to compromise the levee structure will be attempted to be saved and protected in place.

3. Trim trees to be protected in place for construction equipment access, including along the haul route, with pole pruners and/or a chainsaw.

4. Remove vegetation (<4-inch in diameter at breast height), fallen trees, stumps, snags, and dead and dying trees, and clear surface vegetation with an excavator.

5. Install cofferdam and/or turbidity curtain around work area with an excavator and a boat.

6. Excavate and remove all soils and substrate disturbed by the erosion including unstable zones and loose material. In addition, excavate soils, substrate, and loose materials in the transition zones adjacent to or within the failure with an excavator and a rubber tired loader.

7. Excavate and shape the waterside slope of levee for stability with an excavator.

8. If requested during the tribal engagement process, place excavated material in interim lay down area for review by Native American Monitors.

9. Place geotextile fabric on cleaned and shaped surface of levee to a maximum of five feet below water surface at time of construction in advance of placing rock.

10. Place clean launch rock beneath the water up to just one foot above water level and place geotextile fabric separator on top with an excavator.

11. Place rock along repaired section of streambank and then backfill rock with soil from one foot above water to top of repair with an excavator and a rubber tired loader.

12. Blend launch and rock fill protection at transition ends into the existing slopes of adjacent soils and/or rip rap and finish to grade with an excavator and a rubber tired loader.

13. Place 3-inch layer of agricultural soil on the upper slope bench.

14. Place 3-inch layer of 1.5-inch quarry stone covering soil-filled rockfill on repair slope to water level at time of repair.

15. Hydroseed upper bench and disturbed areas with native erosion control seed mix.

16. Install 147 native sedge and grass plugs in soil-filled rockfill on repair slope.

17. Install row of 30 willow pole cuttings at 5-feet spacing at approximately 4-feet above water level at time of repair.

18. Install row of 19 willow fascine bundles at approximately 1-foot above water level at time of repair

19. If necessary, place and compact aggregate base up to a minimum 6-inch thickness to rebuild the levee road with a rubber tired loader.

Two mature valley oak trees with partially exposed roots located within the repair area would be protected in place. Willow pole cuttings would be irrigated and monitored for 6 months post-construction.

2.4.1 Repair Characteristics

The estimated repair characteristics for Site 80 are presented in **Table 1**.

Table 1. Site 80 Estimated Repair Characteristics

Repair Characteristics	
Repair Length	175 linear feet
Area of laydown	0.5 acres
Area of repair below Ordinary High Water Mark (OHWM)	0.05 acres
Area of repair above OHWM	0.06 acres
Estimated excavation, above OWHM	134 cubic yards (0.02 acre)
Estimated excavation, below OWHM	170 cubic yards (0.03 acre)
Earthfill, above OWHM	4 cubic yards
Aggregate base, above OHWM	73 tons
Agricultural soil, above OHWM	182 tons or 121 cubic yards
Rockfill, above OHWM	665 tons or 391 cubic yards
Launch Rock, above OHWM	87 tons or 50 cubic yards
Launch Rock, below OHWM	492 tons or 281 cubic yards
Estimated Truck Loads	92
Final bank slope (Horizontal:Vertical)	1.5:1

2.4.2 Construction Timing and Equipment

Construction activities are anticipated to take place during late summer/early fall of 2020. The proposed erosion repair would require approximately one month of active construction. All construction work would take place during daylight hours, and no nighttime lighting would be required. The maximum length of the work day would be 5 a.m. to 8 p.m. depending on allowable daylight.

Heavy equipment and vehicles to be used during construction are anticipated to include the following:

- Water truck
- Excavator
- Rubber-Tired Loader
- Hydroseeding machine
- Pick-up truck

2.4.3 Environmental Commitments

The following describes the environmental commitments that DWR has incorporated into the proposed project. These environmental commitments include conservation measures and/or best management practices (BMPs). These environmental commitments were developed in

coordination with the resources agencies to avoid, minimize and/or provide compensation for effects on biological resources.

The environmental analysis in this Initial Study considers these environmental commitments as elements of the proposed project when evaluating the level of significance of potential impacts.

DWR would minimize disturbance at Site 80 by implementing the following measures and/or BMPs:

1. Retain a qualified biological monitor to be present or on-call during construction activities with the potential to affect sensitive biological resources. The biological monitor shall be on-site during initial ground-disturbing activities. The biological monitor shall ensure that any construction or exclusion fencing is maintained. The biological monitor shall have the authority to stop work if a special-status wildlife species is encountered within the project area during construction, and the appropriate regulatory agency(ies) shall be notified. Construction activities shall cease until it is determined the species will not be harmed or that it has left the construction area on its own.

2. DWR will submit in writing the name, qualifications, business address, and contact information of a biologist(s) (Designated Biologist) at least 30 days prior to starting project activities. DWR will ensure the Designated Biologist is knowledgeable and experienced in the biology and natural history of the listed species. The Designated Biologist will be responsible for monitoring project activities to help avoid, minimize, and mitigate effects to listed species and their habitat. DWR will obtain United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW) approval of the Designated Biologist in writing before starting project activities and will also obtain written approval in advance if the Designated Biologist must be changed. The Designated Biologist may authorize Biological Monitors to assist in monitoring efforts. The Biological Monitors will be approved by USFWS, NMFS, and CDFW in writing before starting project activities.

3. DWR will provide environmental awareness training by a Designated Biologist to the DWR construction lead, construction foreman, crew leader, and any contractor personnel working on construction sites. Environmental awareness training will include descriptions of all special-status fish and wildlife species and types of cultural resources potentially occurring in the repair area for activity-specific training, their habitats, and methods of identification, including visual aids as appropriate. The training will also describe activity-specific measures that will be followed to avoid impacts. Hardcopies of environmental permits and training materials will be provided to the DWR construction lead, construction foreman, crew leader, and any contractors participating in repair work.

4. Levee crown roads will be used to access the site, while previously disturbed areas along the levee road will be used for staging of equipment and materials to avoid affecting previously undisturbed areas.

5. The number of access routes and the size of staging and work areas will be limited to the minimum necessary to conduct the activity.

6. Where feasible and practicable, work area limits will be clearly marked (e.g., with flagging or fencing), including access roads; staging and equipment storage areas; laydown areas for spoil disposal, soil, and materials; and equipment exclusion zones. Work will occur only within the marked limits.

7. Prior to initiation of repair activities, a Designated Biologist will identify potential riparian habitat, shaded riverine aquatic cover, and native oaks. Where feasible, DWR will mark the boundaries of these areas using temporary fencing, high-visibility flagging, or other means that are equally effective in clearly delineating the boundaries. When feasible, repair activities will be excluded from these areas. In many situations, equipment can be operated to avoid disturbing isolated riparian trees or low-height riparian scrub habitat.

8. All vehicles and heavy equipment will be inspected for the presence of wildlife before the start of each workday when equipment is staged overnight.

9. Construction vehicles and equipment will be checked daily for leaks and will be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease.

10. All project-related trash items, such as wrappers, cans, bottles, and food scraps, will be collected in closed containers, removed from the repair site each day, and disposed of at an appropriate off-site location to minimize attracting wildlife to the work area.

11. Wildlife entrapment will be avoided by completely covering, or providing escape ramps for, all excavated steep-walled holes or trenches more than 1 foot deep at the end of each work day.

12. Vegetation clearing, especially the clearing of native riparian vegetation and native oaks, as well as grubbing for temporary vehicle access, will be kept to the minimum necessary to the extent practicable.

13. Trees that are designated to be protected in place will be protected using tree-wrap protection or other techniques as designated by the Designated Biologist.

14. Removal of native trees with a trunk greater than (>) four inches in diameter at breast height will be avoided, where feasible. Work will be done in a manner that ensures, to the extent feasible without compromising repair requirements, that living native riparian vegetation within the vegetation clearing zones is avoided and left undisturbed.

15. Trees within the repair area identified for protection and outside the work limit may require trimming or removal for equipment clearance or excavation. A Designated Biologist will document all tree and sensitive plant trimming or removal.

16. If erosion control fabrics are used, products with plastic monofilament or cross-joints in the netting that are bound/stitched (such as straw wattles, fiber rolls, or erosion control blankets) will not be used.

17. DWR will install erosion control materials that minimize soil or sediment from entering Deer Creek. DWR will monitor the erosion control materials for effectiveness and maintain them throughout the repairs and monitoring. DWR will immediately repair or replace any erosion control barrier that is not functioning effectively.

18. The amount of revetment and similar materials used for bank protection and other repair activities will be limited to the amount necessary to ensure proper flood protection system integrity and function.

19. Temporary fill, construction debris, and refuse will be removed and properly disposed of following completion of repair activities.

20. Habitats, including sensitive natural communities, will be restored to pre-project conditions wherever feasible.

21. DWR will implement measures to minimize the potential for invasive plants to be introduced or spread during activities.

2.5 Anticipated Regulatory Permits and Approvals

Table 2 lists the federal, State, and local permits and regulatory approvals that are expected to be necessary to implement the proposed project. The agencies responsible for issuing these approvals would consider the information presented in this Initial Study during their decision-making process.

Table 2. Required permits and approvals anticipated for the proposed project.

Permit	Permitting Authority	Affected Elements
Federal Permits/Approvals		
Clean Water Act Section 404Dredge and Fill Permit	United States Army Corps of Engineers	Permitted activities that require dredging or the placement of fill within Waters of the United States
Federal Endangered Species Act compliance	United States Fish and Wildlife Service	Permitted activities affecting federally listed special-status species
Federal Endangered Species Act compliance	National Marine Fisheries Service	Permitted activities affecting federally listed special-status marine or anadromous fish species
State Permits/Approvals		
Clean Water Act Section 401 Water Quality Certification	Central Valley Regional Water Quality Control Board	Permitted activities within jurisdictional Waters of the U.S. requiring a Section 404 permit
Porter-Cologne Water Quality Control Act Waste	Central Valley Regional Water	Permitted activities on facilities that would be constructed in Waters of the United States

Discharge Requirements (WDR)	Quality Control Board	
National Pollutant Discharge Elimination System General Construction Activity Permit	Central Valley Regional Water Quality Control Board	Permitted activities on facilities where runoff would discharge into surface water
California Endangered Species Act compliance	California Department of Fish and Wildlife	Permitted activities affecting State-listed special-status species
Section 1601 et seq. Streambed Alteration Agreement	California Department of Fish and Wildlife	Permitted activities that would substantially change or use material from the bed, channel, or bank of any river, stream, or lake
National Historic Preservation Act Section 106 Compliance	Historic Preservation Office	Permitted activities on facilities that would affect cultural and historic resources listed or eligible for inclusion in the National Register of Historic Places

Chapter 3: Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal

standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

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Signature Date

3.1 Environmental Checklist

CEQA Guidelines Appendix G was used as the basis for assessing the significance of potential environmental impacts, taking into account the whole of the action as required by CEQA. Agency standards, regulatory requirements, and professional judgement were also used, where appropriate.

Each of the resources was evaluated and one of the following determinations was made to describe the level of significance of impacts:

- **No Impact.** No impact on the environment would occur as a result of implementing the project.
- **Less than Significant.** Implementation of the project would not result in a substantial and adverse change to the environment and no mitigation would be required.
- **Less than Significant with Mitigation Incorporated.** Implementation of the project could result in a substantial, or potentially substantial, adverse change to the environment, but incorporation of identified mitigation measures would reduce the impact to a less-than significant level.
- **Significant and Unavoidable**. Implementation of the project could result in an impact that has a substantial, or potentially substantial, adverse change to the environment and mitigation to reduce the impact to a less-than-significant level is not possible.

Mitigation measures are provided to reduce potentially significant impacts to less-than-significant levels, where applicable. A summary of mitigation measures is included in Appendix A, “Mitigation Monitoring and Reporting Program.”

3.1.1 Resources Eliminated from Further Analysis

During the environmental analysis conducted for the proposed project, several resources were eliminated from detailed analysis because no impacts from project implementation are anticipated. A description of the resources and an explanation for eliminating them from further analysis are provided below.

Aesthetics - Site 80 is located along an existing SPFC levee surrounded by private land. Adjacent land is rural agriculture. Site 80 is not located within a designated scenic vista, and there are no State- or County-designated scenic highways located with views of Site 80 (Tehama County 2009). In addition, there are no developed recreational sites or trails with views of the site. The proposed staging and laydown areas are sparsely covered with ruderal vegetation. Construction disturbance at the repair site and laydown areas would be limited to an area approximately 0.1 acre and 0.5 acre in size, respectively, and disturbed areas would be hydroseeded or planted with willows, sedges, and grasses. The proposed project would not degrade the existing visual character or quality of the area, nor create any new sources of light or glare. There would be no impact to aesthetics.

Agricultural and Forest Resources - There are no forestry resources within or adjacent to Site 80, so the proposed project would not conflict with forest land zoning or result in the loss/conversion of forest land. Site 80 is located along a levee that is surrounded by agricultural lands. The erosion repair site, staging area, and laydown area are designated by the Farmland Mapping and Monitoring Program as grazing land. Adjacent lands are designated as prime farmland, unique farmland, and farmland of local importance (California Department of Conservation 2016). Access to Site 80 would occur along existing paved public roads and the levee crown road. Staging and laydown activities would occur in areas that are sparsely covered with ruderal vegetation. Disturbed areas at the levee repair site would be restored following completion of construction. Therefore, the proposed project would not result in the permanent conversion of farmland to non-agricultural uses or conflict with existing zoning for agricultural use or a Williamson Act contract. In addition, the purpose of the proposed project is to restore the flood protection performance of the levee and decrease potential flood impacts to surrounding land, which includes agricultural lands. There would be no impact to prime farmland, unique farmland, or farmland of statewide importance.

Land Use and Planning – Proposed project construction activities would occur along a levee in a rural agricultural area and therefore would not divide an established community. Project activities would be limited to the existing levee and proposed staging and laydown areas. Construction activities would be temporary and would not conflict with existing land use designations. There would be no conversion of existing land use and the proposed project would not result in conflict with local or State regulations. There would be no impact to land use and planning.

Mineral Resources – Site 80 is located on an existing levee surrounded by agricultural land uses. The nearest existing mines (Deer Creek Mine and Vina Quarry) are located approximately 1.5 and 4 miles from Site 80, respectively (Tehama County 2019), and would not be affected by the proposed project. Implementation of the proposed project would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site, resulting in no impact.

Population and Housing – The proposed project consists of erosion repair to restore the flood capacity of an existing levee. No new homes, businesses, road extensions, or other infrastructure for development are proposed as part of the proposed project. The proposed project would employ existing DWR staff and regionally sourced contractors. Accordingly, the proposed project would not induce population growth in the area and would not affect nearby cities or towns. The repair site, staging and laydown areas, and access road are located on lands designated as valley floor agriculture and are 0.25 mile from the nearest residence. Consequently, the proposed project would not displace any existing homes or people, and construction of replacement housing would not be required. There would be no population or housing impacts.

Public Services - The proposed project would not result in the construction of any new facilities or increase of population that would generate a need for new or physically altered public services facilities in order to maintain acceptable service ratios, response times, or other performance

objectives for fire protection, police protection, schools, parks, or other public facilities. There would be no public services impacts.

Recreation - There are no federal, State, regional, or other parks within or in the vicinity of Site 80. The proposed project would not result in the construction of any new facilities or a population increase; therefore, there would be no increased use of parks or recreational facilities over that which currently occurs. In addition, there would be no recreational facility expansion or construction as a result of the proposed project. There would be no recreation impacts.

Transportation - The circulation system surrounding the project area would be subject to a short-term increase in traffic along State Route 99, Leininger Road, and Vina Road/Lassen Road during project construction. Increases in traffic would occur when heavy equipment is transported to Site 80 at the start of construction; when rock, fill, and topsoil material is transported to the site; and when heavy equipment is transported out of the project area following completion of construction. During the anticipated construction period, there would be a minimal increase in traffic on these roads resulting from the daily transportation of construction personnel (assumed to be seven personnel) to and from Site 80. These temporary increases in traffic would not conflict with programs, plans, ordinances, or policies addressing the circulation system, and would not conflict or be inconsistent with CEQA Guidelines section 15064.3(b). The proposed project would repair erosion at an existing levee and would not increase hazards due to a design feature or incompatible use. Levee repairs would not occur within roadways and therefore would not restrict emergency access. There would be no transportation-related impacts.

Wildfire – Site 80 is located within a state responsibility area classified as a moderate fire hazard severity zone (California Department of Forestry and Fire Protection 2019). The proposed levee erosion repair would not impair an adopted response plan or emergency evacuation plan, exacerbate wildfire risk, or expose people or structures to significant risk of downstream flooding or landslides. There would be no impacts to wildfire risk.

3.1.2 Air Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

Site 80 is located within the jurisdiction of the Tehama County Air Pollution Control District (TCAPCD). Particulate matter and ozone are the air pollutants of greatest concern in Tehama County. Particulate matter consists of fine mineral, metal, soot, smoke, and dust particles suspended in the air. For health reasons, the greatest concern is with inhalant particulate matter less than 10 microns in diameter (PM10), which can lodge in the most sensitive areas of the lungs and cause respiratory or other health problems. Tehama County is designated as a non-attainment[1] area for PM10 by State standards and as unclassified[2] by federal standards.

Construction equipment can release large amounts of particulate matter into the atmosphere in a relatively short period of time. Ozone is an invisible pollutant formed by chemical reactions involving nitrogen oxides, reactive hydrocarbons such as diesel, and gasoline emissions in the presence of sunlight. It is a powerful respiratory irritant that can cause coughing, shortness of

[1] Status assigned to areas where monitored pollutant concentrations violated national and/or State ambient air-quality standards within the last three years.
[2] Status assigned to areas with insufficient data.

breath, headaches, fatigue, and lung damage, especially among children, the elderly, and the sick. Tehama County is designated as non-attainment for ozone by State standards.

For the purposes of CEQA, sensitive receptors include residences, educational facilities, daycare centers, and health care facilities. Site 80 is in a rural agricultural area. The only sensitive receptors are landowner residences. The nearest residence is located 0.25 mile southwest of Site 80. The next closest residence is 0.45 mile southwest of Site 80.

a) **No Impact**. Project construction would include the use of large construction equipment including a loader, excavator, and water truck. Transportation vehicles would also be used. All equipment would be operated under current California Air Regulations as enforced by the TCAPCD. The limited effects to air quality that would result either directly or indirectly from project construction would be temporary. As a result, construction activities are not anticipated to conflict with or obstruct implementation of the Tehama County Air Quality Plan or any State Air Quality Plans. There would be no impact.

b) **Less than Significant**. Project construction has the potential to temporarily affect ambient air quality by generating criteria pollutant emissions during operation of construction vehicles and equipment, and during transport of rock and soil materials to the repair site. Potential project-related emissions include PM10 and ozone precursors. Fugitive dust emissions from ground-disturbing activities and driving on unpaved roads would also contribute to increases of PM10. Project-related increases of these pollutants could be potentially significant because Tehama County is in nonattainment for these pollutants by State standards. However, the TCAPCD has not established quantitative thresholds of significance for the purposes of CEQA with respect to short-term construction emissions of criteria air pollutant or precursor emissions. Rather, the agency emphasizes control measures. In addition, construction-related emissions would be temporary and therefore would not contribute to a cumulatively considerable net increase, resulting in a less-than-significant impact. Implementation of the emission and dust control measures included in **Mitigation Measure AQ-1** would further reduce potential air quality impacts by assuring that the use of fueled equipment in connection with project construction and maintenance would not generate excessive amounts of particulate matter in the form of dust or equipment exhaust.

Mitigation Measure AQ-1: Implement TCAPCD Construction Best Management Practices.

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize to the extent feasible, the use of diesel construction equipment meeting current California Air Resources Board certification standards for off-road heavy-duty diesel engines.
- If required by TCAPCD, all off-road heavy-duty diesel equipment greater than 50 horsepower used in execution of the project shall be registered with the Air Resources

Board's Diesel Off-Road Online Reporting System (DOORS) and meet all applicable standards for replacement and/or retrofit.

- If required by TCAPCD, all portable equipment used in the execution of project construction, including generators and air compressors rated over 50 brake horsepower, shall be registered in the Portable Equipment Registration Program or permitted through the TCAPCD.
- Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
- Haul vehicles transporting soil into or out of the property shall be covered to reduce track out.
- Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary to reduce fugitive dust emissions.

c, d) **Less than Significant**. Diesel-powered construction equipment can generate diesel particulate matter, which is known to be a toxic air contaminant, and can generate emissions that produce what many people consider to be objectionable odors. Diesel-powered equipment would be used during construction, but construction would be temporary and of a short duration and would occur in a rural agricultural area 0.25 mile from the nearest sensitive receptor. Given the short duration of construction and the distance to sensitive receptors, equipment and vehicle emissions would not expose sensitive receptors to substantial pollutant concentrations and would not significantly affect a substantial number of people, resulting in a less than significant impact.

3.1.3 Biological Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, the	☐	☒	☐	☐

	U.S. Fish and Wildlife Service, or the National Marine Fisheries Service?			
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

The description of the environmental setting for biological resources is based on data collected during reconnaissance-level field surveys conducted by AECOM (consultant) biologists on August 5, 2019; an environmental site visit by DWR environmental scientists on November 22, 2019; and searches of the following:

- CDFWs California Natural Diversity Database (CNDDB) 10-mile radius search for documented special-status species

- USFWS Information, Planning, and Conservation System resource list for potential threatened or endangered species, designated critical habitat, and migratory birds

- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants for special-status plants documented on the Gerber, Los Molinos, Acorn Hollow, Corning, Vina, Richardson Springs NW, Kirkwood, Foster Island, and Nord USGS 7.5-minute quadrangles

The study area for biological resources includes the repair site, staging and laydown areas, and immediately adjacent areas. The proposed repair site consists of valley foothill riparian and riverine habitat. Valley foothill riparian habitat surrounding Site 80 is dominated by Fremont cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), and valley oak with a subcanopy of white alder (*Alnus rhombifolia*). The understory includes California grape, blue elderberry (*Sambucus nigra* ssp. *cerulea*), Himalayan blackberry (*Rubus armeniacus*), and willows (*Salix* spp.) with an herbaceous layer of sedges (*Carex* sp.) and rushes (*Juncus* sp.). Riparian habitat is designated by CDFW as a sensitive natural community and serves as shaded riverine aquatic habitat in the vicinity of the repair site. Riverine habitat at the site is perennial open water.

The proposed staging and laydown areas consist of sparse ruderal vegetation and bare ground. These barren areas are highly disturbed with minimal ground cover and several interspersed remnant valley oak and sycamore trees. Other habitats immediately adjacent to or across the creek from Site 80 include annual grassland, vineyard, deciduous orchard, and pasture.

These habitat types provide potential suitable habitat for numerous species, including special-status species. Special-status species include those species federally or State-listed as endangered, threatened, or candidate; State-listed as species of special concern or fully protected species; federally listed as a bird of conservation concern; or ranked by the CNPS as a rare plant. The likelihood of occurrence for each species was determined by the availability of suitable habitat within or adjacent to Site 80 and proximity to known occurrences. **Table 3** lists the special-status species identified during database queries and analyzed for their potential to occur within the study area. Identified migratory bird species are also included. The project area falls within designated critical habitat for both Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley steelhead (*Oncorhynchus mykiss* ssp. *irideus*). The project area also falls within designated essential fish habitat for Central Valley spring-run and fall/late fall-run Chinook salmon. Species with a low potential for occurrence are not further evaluated in this Initial Study.

Table 3. Special-status species reviewed and analyzed for potential to occur in the study area.

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
Plants			
adobe-lily *Fritillaria pluriflora*	-/-/1B.2	Chaparral, cismontane woodland, valley and foothill grassland/often adobe. Elevation ranges from 200 to 2310 feet (60 to 705 meters). Blooms February to April.	**Low**. The study area, which is located on Molinos complex (channeled) and Riverwash soils, does not contain the clay soils known to support this species.
Ahart's paronychia *Paronychia ahartii*	-/-/1B.1	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation ranges from 100 to 1670 feet (30 to 510 meters). Blooms February to June.	**None**. There are no vernal pools in the study area.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	-/E/1B.2	Marshes and swamps (lake margins), vernal pools. Elevation ranges from 30 to 7790 feet (10 to 2375 meters). Blooms April to August.	**None**. There are no vernal pools in the study area.
Butte County meadowfoam *Limnanthes floccosa ssp. californica*	E/E/1B.1	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 150 to 3050 feet (46 to 930 meters). Blooms March to May.	**None**. There are no vernal pools or mesic grasslands in the study area.
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	-/-/1B.1	Marshes and swamps (coastal salt), playas, vernal pools. Elevation ranges from 0 to 4005 feet (1 to 1220 meters). Blooms February to June.	**None**. There are no vernal pools or mesic grasslands in the study area.
dwarf downingia *Downingia pusilla*	-/-/2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1460 feet (1 to 445 meters). Blooms March to May.	**None**. There are no vernal pools or seasonal wetlands in the study area.
Greene's tuctoria *Tuctoria greenei*	E/-/1B.1	Vernal pools. Elevation ranges from 100 to 3510 feet (30 to 1070 meters). Blooms May to July (occasionally September).	**None**. There are no vernal pools in the study area.
hairy Orcutt grass *Orcuttia pilosa*	E/E/1B.1	Vernal pools. Elevation ranges from 150 to 660 feet (46 to 200 meters). Blooms May to September.	**None**. There are no vernal pools in the study area.
Hoover's spurge *Euphorbia hooveri*	T/-/1B.2	Vernal pools. Elevation ranges from 80 to 820 feet (25 to 250 meters). Blooms July to September (occasionally October).	**None**. There are no vernal pools in the study area.
Sanford's arrowhead *Sagittaria sanfordii*	-/-/1B.2	Marshes and swamps (assorted shallow freshwater). Elevation ranges from 0 to 2135 feet (0 to 650 meters).	**Low**. Freshwater marsh does not occur in the study area.

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
		Blooms May to October (sometimes November).	
silky cryptantha *Cryptantha crinita*	-/-/1B.2	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, valley and foothill grassland in gravelly streambeds. Elevation ranges from 200 to 3985 feet (61 to 1215 meters). Blooms April to May.	**Low**. The study area lacks suitable hydrology and substrate for this species.
slender Orcutt grass *Orcuttia tenuis*	T/E/1B.1	Vernal pools. Elevation ranges from 110 to 5775 feet (35 to 1760 meters). Blooms May to September (sometimes October).	**None**. There are no vernal pools in the study area.
Stony Creek spurge *Euphorbia ocellata ssp. rattanii*	-/-/1B.2	Chaparral, riparian scrub (streambank), valley and foothill grassland (sandy gravel riverbed of intermittent streams). Elevation ranges from 210 to 2625 feet (65 to 800 meters). Blooms May to October.	**Low**. The study area lacks suitable hydrology and substrate for this species.
white-stemmed clarkia *Clarkia gracilis ssp. albicaulis*	-/-/1B.2	Chaparral, cismontane woodland/sometimes serpentine. Elevation ranges from 800 to 3560 feet (245 to 1085 meters). Blooms May to July.	**Low**. The study area is outside this species elevational range and there are no serpentine-derived soils or chaparral in the study area.
Invertebrates			
Conservancy fairy shrimp *Branchinecta conservatio*	E/-/-	Vernal pools and wetlands in the valley and foothill grasslands. Found in large, turbid pools formed by old braided alluvium. Endemic to the grasslands of the northern two-thirds of the Central Valley.	**None**. Vernal pools are not present within the study area.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/-/-	Valley and foothill grassland vernal pools and wetlands. Found in small clear-water sandstone depressions, grass swales, earth slumps or basalt depression pools.	**None**. Vernal pools are not present within the study area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/-/-	Occurs only in the Central Valley in close association with the blue elderberry (*Sambucus nigra* ssp. *caerulea*). Spends most of its life in the larval stage, where it lives within the stems of the elderberry plant. Adults emerge from the stems late March–June.	**High**. This species' host plant, the blue elderberry, occurs within the study area. The nearest occurrence of this species is along Deer Creek near Highway 99.

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
Vernal pool tadpole shrimp *Lepidurus packardi*	E/-/-	Valley and foothill grasslands, vernal pools, and wetlands. Inhabits vernal pools and swales with clear to highly turbid water. Found in pools that are wet long enough to support fish species.	**None**. Vernal pools are not present within the study area.
Fish			
Chinook salmon - Central Valley fall/late-fall-run ESU *Oncorhynchus tshawytscha*	-/SSC/-	Adults typically migrate upstream into Deer Creek from October through February to spawn in a cool, clear, well-oxygenated section of Deer Creek. Juveniles typically rear and migrate out of Deer Creek by mid-June.	**High.** Populations of fall/late-fall run are known to occur in Deer Creek.
Chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha*	T/T/-	Adults enter the Sacramento River from late March through September and migrate upstream through the project area to spawn in a cool, clear, well-oxygenated upstream section of Deer Creek from August through early October. Juveniles out-migrate soon after emergence as young-of-the-year (February–June) or remain in freshwater and out-migrate as yearlings (October-March) (Moyle et al. 2017).	**High.** Deer Creek supports a wild population of spring-run Chinook salmon.
chinook salmon - Sacramento River winter-run ESU *Oncorhynchus tshawytscha*	E/E/-	Adults migrate upstream during winter/spring and spawn in Battle Creek and the mainstem Sacramento River (near Redding) from April through August. Juveniles begin moving downstream as early as mid-July through March (Moyle et al. 2017).	**Low**. This species may use lower reaches of Deer Creek for non-natal rearing, but spawning is restricted to the Sacramento River mainstem.
Pacific lamprey *Entosphenus tridentatus*	-/SSC/-	Adults typically migrate upstream and spawn between March and July in gravel-bottomed streams in low gradient riffle habitat. Larvae (ammocoetes) drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrate for the next three to seven years (Goodman and Reid 2012).	**High**. A population of lamprey is known to occur in Deer Creek.
steelhead - Central Valley DPS *Oncorhynchus mykiss ssp. irideus*	T/-/-	Adults migrate upstream into Deer Creek from October through February and spawn December through April. Preferred spawning habitat is in cool to cold perennial streams with high	**High**. A population of steelhead is known to occur in Deer Creek.

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
		dissolved oxygen levels and fast flowing water. Juveniles typically out-migrate in the spring and early summer as one-year-old fish.	
Reptiles and Amphibians			
California red-legged frog *Rana draytonii*	T/SSC/-	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation	**Low**. This species was likely extirpated from the valley floor before 1960 (United States Fish and Wildlife Service 1996).
foothill yellow-legged frog *Rana boylii*	-/T/-	Shallow streams and riffles with rocky substrate, and open sunny banks and gravel bars, along forests, chaparral, and woodlands.	**Low**. This species is known to occur approximately 20 miles upstream of the study area, and although Lower Deer Creek provides some suitable habitat elements, the study area is likely unsuitable for breeding.
giant garter snake *Thamnophis gigas*	T/T/-	Endemic to the marshes and swamps, riparian scrub, and wetland habitats of the Central Valley with emergent, herbaceous vegetation. Prefers freshwater marshes and low-gradient streams, but also uses drainage canals and irrigation ditches. Occupies upland habitat with grassy banks and openings in waterside vegetation for basking.	**None.** The Project Area is well outside the species known range. Additionally, habitat linkages between the Project Area and the known species range are absent.
western pond turtle *Emys marmorata*	-/SSC/-	Uses ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**High**. Deer Creek provides suitable aquatic habitat for this species.
western spadefoot *Spea hammondii*	-/SSC/-	Occurs primarily in grasslands, but can be found in woodlands, scrublands, and other habitats. Aquatic breeding occurs in shallow temporary pools formed by winter rains. Most of nonbreeding period spent underground in burrows.	**None**. Vernal pools are not present within the study area.

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
Birds			
bald eagle *Haliaeetus leucocephalus*	D/E/-	Large bodies of water or flowing streams with abundant fish and riparian trees for perching and nesting. Breeds February through July, with peak activity from March to June.	**High.** Bald eagles were observed during the August field survey and November site visit in a riparian area on the bank directly opposite of the study area. No nests were observed.
bank swallow *Riparia riparia*	-/T/-	Nesting colonies only occur in vertical banks or bluffs of friable soils suitable for burrowing by these small birds. Nests throughout California.	**Low**. Potential nesting habitat within the study area is marginal at best. Nearest occurrences are associated with the Sacramento River.
burrowing owl *Athene cunicularia*	BCC/SSC/-	Prefers open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Suitable habitat is characterized by burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation for foraging. In agricultural environments, burrowing owls often nest along roadsides and water conveyance structures. Nests and roost burrows are commonly dug by ground squirrels.	**Moderate**. Open grasslands do not occur within the study area, but adjacent pasture and annual grasslands may provide suitable habitat for this species.
least Bell's vireo *Vireo bellii pusillus*	E/E/-	Structurally diverse woodlands along watercourses, including cottonwood-willow forests, oak woodlands, and mule fat scrub.	**Low**. Although riparian habitat within the study area may provide suitable nesting habitat, this species is considered to be extirpated from the region.
oak titmouse *Baeolophus inornatus*	BCC/-/-	Uses a variety of habitats including open oak woodlands and riparian areas. Breeds from March into July with peak activity in April and May.	**High.** The study area provides suitable habitat for this species.
Swainson's hawk *Buteo swainsoni*	BCC/T/-	Nests in riparian areas. Forages in grasslands with scattered trees, juniper sage flats, riparian areas, savannahs, and agricultural or ranch habitats.	**High**. Riparian areas provide suitable nesting habitat and adjacent pasture provides suitable foraging habitat.

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
tricolored blackbird *Agelaius tricolor*	BCC/T/-	Nests in freshwater marshes with tall emergent vegetation, in upland habitats, and in silage fields. Forages in agricultural areas, particularly where livestock is present.	**Low**. Suitable nesting habitat is lacking within the study area.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	T/E/-	Breeding habitat primarily consists of large blocks or contiguous areas of riparian habitat, particularly cottonwood–willow riparian woodlands. Prefers dense riparian thickets with dense low-level foliage near slow-moving water sources.	**Low**. Designated critical habitat for this species is located at the mouth of Deer Creek, approximately 5 miles downstream of the study area, so it is possible that this species may forage in the study area. However, the riparian habitat within, upstream, and downstream of the study area occurs in narrow strips confined by agricultural land uses. These small areas of riparian vegetation lack density and are likely too small to provide suitable nesting habitat.
yellow-billed magpie *Pica nuttalli*	BCC/-/-	Preferred habitats include open oak and riparian woodlands as well as agricultural habitats with tall trees. Breeds from late February to mid-July with peak activity in May and June.	**High.** The study area provides suitable habitat for this species.
Mammals			
pallid bat *Antrozous pallidus*	-/SSC/-	Utilizes a wide variety of habitats throughout the state, including valley and foothill grasslands. Common in open, dry habitats with rocky areas for roosting, which must provide protection from hot temperatures. Generally roosts in caves or caverns or structures high above the ground where the entrance/exit is unobstructed.	**High**. Large riparian trees within the study area provide suitable roosting habitat for this species.
Townsend's big-eared bat *Corynorhinus townsendii*	-/SSC/-	Associated with a wide variety of habitats from deserts to higher-elevation mixed and coniferous forests. Females form maternity colonies in buildings, caves and	**Low**. The study area does not provide suitable roost sites. The study area may

Common and Scientific Name	Status (Federal/State/CNPS)	Habitat/Range/ Life History[a]	Potential for Occurrence
		mines, and males roost singly or in small groups. Foraging typically occurs at edge habitats near wooded areas, e.g. along streams.	provide foraging habitat.
western mastiff bat *Eumops perotis californicus*	-/SSC/-	Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	**Low**. The study area does not provide suitable roost sites. The study area may provide foraging habitat.
western red bat *Lasiurus blossevillii*	-/SSC/-	Riparian habitat with mature cottonwood and sycamore trees, cismontane woodland, or lower montane coniferous forest. Roosts in trees along habitat edges and varied habitat where trees are protected from above and open below for foraging.	**High**. The study area provides riparian broad-leaved trees for roosting and a variety of edge habitats for foraging.

[a] Life history information included when necessary to determine the potential for occurrence within the study area or to support the associated impact analysis.

Status Key:

E = endangered; T = threatened; D = delisted; SSC = CDFW Species of Special Concern; BCC = federal bird of conservation concern
California Native Plant Society (CNPS Ranks):
Rank 1B.1 = CNPS Rank 1B.1: Plants rare, threatened or endangered in California and elsewhere (seriously threatened in California)
Rank 1B.2 = CNPS Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere (moderately threatened in California)
Rank 2B.2 = CNPS Rank 2B.2: Plants rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)

a) Proposed project construction would occur within a repair area that is approximately 175 linear feet and 0.1 acre in size. Approximately 0.05 acre of temporary disturbance would occur below the OHWM and approximately 0.06 acre would occur above the OHWM. Temporary disturbance of approximately 0.5 acre would also occur within the proposed staging and laydown areas.

Plants

No Impact. No special-status plant species were determined to have the potential to occur within the study area.

Invertebrates

Less than Significant with Mitigation Incorporated. Elderberry shrubs are located immediately upstream from the proposed repair site, and one elderberry shrub is located at the edge of the staging area. Valley elderberry longhorn beetles are assumed to be present in

elderberry shrubs with stems one inch or greater in diameter at ground level. Although no elderberry shrubs are proposed for removal or trimming, any unanticipated trimming or removal during vegetation clearing and grading would have the potential for direct take of this species. Valley elderberry longhorn beetle may also be indirectly affected by construction noise and vibration, or accumulation of dust on elderberry shrubs, resulting in a potentially significant impact.

Implementation of the environmental commitments incorporated into the proposed project, which include providing environmental awareness training and defining work area limits, and implementation of the valley elderberry longhorn beetle protection measures included in **Mitigation Measure BIO-1**, would reduce the level of impacts to less than significant.

Mitigation Measure BIO-1: Implement protection measures for the valley elderberry longhorn beetle.

- Avoid work during the flights season of the valley elderberry longhorn beetle (March 15 to June 15).
- All suitable elderberry shrubs (i.e., shrubs with stem diameters of at least 1 inch when measured at ground level) would be avoided if not designated for removal or trimming.
- A 5-foot avoidance buffer would be established from the dripline of any elderberry shrubs. These avoidance buffers would be avoided by all personnel and repair activities. Shrubs would be flagged or temporarily fenced, as needed, with guidance from the Designated Biologist and designated as biologically sensitive areas. When feasible, fencing would be placed at the buffer.

Fish

Less than Significant with Mitigation Incorporated. Deer Creek provides suitable habitat for special-status fish species including fall/late-fall-run Chinook salmon, spring-run Chinook salmon, Pacific lamprey, and Central Valley steelhead. Proposed instream construction activities could adversely affect these species through increased sedimentation or the release of hazardous materials in Deer Creek, altering aquatic habitat suitability through the removal of shaded riverine aquatic habitat, or disrupting behavioral patterns, resulting in a potentially significant impact.

Installation of the turbidity curtain and implementation of the environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, checking vehicles for leaks, and installing erosion control materials, would minimize impacts to water quality. Adherence to United States Army Corps of Engineers (USACE) Section 404 and Central Valley Regional Water Quality Control Board (CVRWQCB) Section 401 permit requirements would further minimize impacts to water quality and result in a less than significant impact.

Implementation of additional minimization measures included in **Mitigation Measure BIO-2**, which would limit the instream work window, allow for daily fish migration, and warn fish

before start of construction, would minimize the risk of injury, mortality, and disruption of behavior, reducing potential impacts to less than significant.

Although mature tree removal is not anticipated, if impacts to riparian habitat that functions as shaded riverine aquatic habitat cannot be avoided, implementation of the compensatory measures included in **Mitigation Measure BIO-3** would reduce potential impacts to less than significant.

Mitigation Measure BIO-2: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species.

- Instream construction activities shall occur between July 15 and September 15 to avoid adverse impacts to Chinook salmon. Instream work could start sooner if CDFW determines that the adult spring-run Chinook salmon are no longer present based on environmental conditions and real time passage data. Instream work could also be extended if environmental conditions which would preclude juvenile steelhead and spring-run Chinook salmon emigration or adult steelhead and late-fall-run Chinook salmon immigration are expected to persist. Instream work outside of the July 15 to September 15 work window must be approved by CDFW and NMFS with details on how take will be avoided and/or minimized.
- Instream work shall only occur for up to 12 hours per day to allow a 12-hour window of time for fish to migrate through without noise disturbance.
- Prior to beginning instream work, the excavator bucket shall be operated to "tap" the surface of the water.
- Instream operation of the excavator bucket shall be conducted slowly and deliberately to allow fish time to seek refuge outside the work area.

Mitigation Measure BIO-3: Compensate for permanent loss of riparian habitat.

- The permanent loss of riparian habitat shall be compensated for by restoring riparian habitat (and/or shaded riverine aquatic habitat) at an adjacent offsite or onsite location by planting native tree and shrub species according to a plan developed in coordination with the appropriate agencies, including CDFW, NMFS, and/or USFWS, or by purchasing riparian mitigation credits from an approved bank. Mitigation ratios shall be determined in coordination with CDFW and USACE during the permitting process.

Reptiles and Amphibians

Less than Significant with Mitigation Incorporated. Western pond turtles could be present within aquatic areas or adjacent agricultural land. Construction activities including instream work, vegetation removal, and grading activities could impact western pond turtles through direct take if present during these activities, resulting in a potentially significant impact. Implementation of the environmental commitments incorporated into the proposed project, which include providing environmental awareness training and defining work area limits, and

implementation of the western pond turtle protection measures included in **Mitigation Measure BIO-4**, would reduce these impacts to less than significant.

Mitigation Measure BIO-4: Implement Specific Protection Measures for the Western Pond Turtle.

- A qualified biologist shall conduct pre-construction surveys for western pond turtle in suitable upland and aquatic habitat within 48 hours prior to the start of construction activities. If there is a lapse in construction activities of two weeks or greater, the area shall be resurveyed within 24 hours prior to recommencement of work.
- If western pond turtles are observed within the project area during project construction, CDFW shall be notified and construction activities in the vicinity shall cease until protective measures are implemented or it is determined that the pond turtle will not be harmed. If it is determined that the pond turtle would be harmed by continued construction activities, a qualified biologist shall move the western pond turtle to a suitable location outside of the project area.

Birds

Less than Significant with Mitigation Incorporated. Special-status bird species, including the bald eagle, burrowing owl, oak titmouse, Swainson's hawk, tricolored blackbird, and yellow-billed magpie, may nest or forage within or in the vicinity of the repair site. Nesting season typically extends from February 1 through August 31 for migratory birds and other birds of prey. Construction activities would not occur within annual grassland or pasture habitat, so impacts to burrowing owls are not anticipated. However, construction activities, including the potential removal of riparian vegetation or a tree, could result in take of an active nest, nest abandonment, or disruption of nesting or foraging behavior for other special-status bird species if it were to occur during the nesting season, resulting in a potentially significant impact. Implementation of the environmental commitments incorporated into the proposed project, which include environmental awareness training, work area limits, and limitations on vegetation clearing and removal of large trees, as well as implementation of the nest protection measures included in **Mitigation Measures BIO-5** through **BIO-7**, would reduce potential impacts to less than significant.

Mitigation Measure BIO-5: Conduct pre-construction nesting bird surveys during the nesting season.

- If construction is scheduled to occur during the bird nesting season (February 1 through August 31), pre-construction nesting bird surveys shall be conducted by a qualified biologist in all suitable nesting habitats within the project area.

- Nesting surveys shall be conducted in accordance with the recommended timing, methodology, and or/protocol for each bird species.

- Surveys shall also include a 0.25-mile radius outside of the project area for Swainson's hawk, western yellow-billed cuckoo, and bald eagle, and a 500-foot radius outside of the project area for other nesting birds.

- Surveys shall be conducted not more than 5 days prior to the start of construction, or as prescribed by established survey protocols.

Mitigation Measure BIO-6: Establish nest protection buffers for active bird nests.

- If an active bird nest is located in the survey area, an appropriate nest protection buffer shall be established by a qualified biologist based on the species, type of construction activities, and line of sight to the work area. Under this measure, nesting birds and offspring would not be disturbed or killed, and nests and eggs would not be destroyed.

- Work shall be conducted no less than 500 feet from an active raptor nest and 100 feet from an active migratory bird nest, though buffer distances for all nesting birds may differ based on consultation with CDFW and USFWS.

- To prevent encroachment, the established buffer(s) shall be clearly marked by high-visibility material if it has been determined by the qualified biologist that high-visibility material would not attract predators to the nest site. No construction activities, including tree removal, shall occur within the buffer zone until the young have fledged or the nest is no longer active, as confirmed by the qualified biologist.

Mitigation Measure BIO-7: Monitor active nests within nest protection buffer.

- If project activities must occur within established buffer zones, a qualified biologist shall establish monitoring measures, including frequency and duration, based on species, individual behavior, and type of construction activities.
- If birds are showing signs of distress within the established buffer(s), work activities shall be modified, or the buffer(s) shall be expanded, to prevent birds from abandoning their nest.
- At any time, the biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to nest abandonment. Work shall not resume until corrective measures have been taken or it is determined that continued activity would not adversely affect nest success.

Mammals

Less than Significant with Mitigation Incorporated. The special-status pallid bat and western red bat have the potential to forage within the study area and roost in the bark or foliage of riparian trees within study area. Project construction would occur during daylight hours, so no impact to foraging bats are anticipated. Although no trees are proposed for removal, if during construction it is determined that a tree needs to be removed, tree removal could result in injury or direct take of these bat species, resulting in a potentially significant impact. Implementation of the environmental commitments incorporated into the proposed project, which include

environmental awareness training, work area limits, and limitations on vegetation clearing and removal of large trees, as well as implementation of the roosting bat protection measures included in **Mitigation Measures BIO-8** and **BIO-9**, would reduce these potential impacts to less than significant.

Mitigation Measure BIO-8: Conduct pre-construction surveys for western red bat and pallid bat.

- A qualified biologist shall conduct pre-construction surveys of all trees proposed for removal for western red bat, pallid bat, and maternity roosts within 24 hours prior to the start of construction activities.
- If the tree removal lapses for more than 24 hours after the survey, an additional survey will be required.

Mitigation Measure BIO-9: Implement protective measures during removal of trees with bat roosts.

- All removal of trees with bat roosts shall be conducted between September 1 and October 30, which corresponds to a time period when bats would not be caring for non-volant young and have not yet entered torpor, or after October 30 to avoid impacts to hibernating bats (or earlier than October 30 if evening temperatures fall below 45 degrees Fahrenheit and/or more than a half inch of rainfall occurs within 24 hours).
- If a non-maternity roost is found in a tree that must be removed or trimmed between September 1 and October 30, a qualified biologist shall monitor tree removal/trimming. Tree removal/trimming shall occur over two consecutive days. On the first day in the afternoon, limbs and branches shall be removed using chainsaws only. Limbs with cavities, crevices, or deep bark fissures shall be avoided, and only branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed. Prior to tree removal/trimming, each tree shall be shaken gently and several minutes shall pass before felling trees or limbs to allow bats time to arouse and leave the tree. The biologist shall search downed vegetation for dead or injured bat species and report any dead or injured special-status bat species to CDFW.
- If a maternity roost is identified, a no-disturbance buffer shall be established and maintained until a qualified biologist determines that the roost is no longer active.

b) **Less than Significant with Mitigation Incorporated**. Riparian habitat is designated as a sensitive natural community because of its declining trend and high value to wildlife and hydrologic function. Shaded riverine aquatic habitat provided by riparian vegetation provides food and cover for fish species. Construction activities associated with vegetation removal may adversely affect riparian habitat, resulting in a potentially significant impact. Implementation of the environmental commitments incorporated into the proposed project, which include environmental awareness training, work area limits, and limitations on vegetation clearing and removal of large trees, would minimize impacts to riparian habitat and reduce impacts to less than significant.

Although tree removal is not anticipated, if impacts to riparian habitat cannot be avoided, implementation of the compensatory measures included in **Mitigation Measure BIO-3** (see impact discussion section above for fish species) would reduce potential impacts to less than significant.

c) **Less than Significant**. Project construction would have no impact on wetlands as no wetlands occur within the project area. Project construction would, however, impact approximately 0.05 acre of waters of the United States (i.e. perennial stream). Construction would be regulated under Section 404 of the Clean Water Act and would require Section 401 water quality certification from the CVRWQCB. CDFW may impose additional requirements as part of the streambed alteration agreement under Section 1602 of the California Fish and Game Code. Adherence to these permit requirements and, if necessary, implementation of the compensatory measure included in **Mitigation Measure BIO-10**, would ensure that potential impacts to waters of the Unites States would be less than significant.

Mitigation Measure BIO-10: Compensate for impacts to waters of the United States.

If impacts to waters of the United States cannot be feasibly avoided, DWR shall implement one of the following compensatory measures:

- Pay in-lieu fees for wetlands or waters of the United States permanent impacts authorized by the USACE through the in-lieu fee program of the Sacramento District of the USACE and administered by the National Fish and Wildlife Foundation, at a ratio determined in consultation with USACE. -or-
- Secure waters of the United States credits at a USACE-approved mitigation bank for permanent impacts at the repair site at a ratio determined in consultation with USACE.

d) **Less than Significant.** Construction activities within and adjacent to riparian habitat and installation of a turbidity curtain may temporarily disrupt movement of terrestrial or aquatic species. Noise associated with construction activities also has the potential to interfere with nesting and foraging activities. Although construction is only anticipated to last up to one month, disruption of wildlife movement or use of nursery sites would be potentially significant. Implementation of the environmental commitments incorporated into the proposed project, which include environmental awareness training, work area limits, limitations on vegetation clearing and removal of large trees, and installation of erosion control materials, would minimize these impacts. Implementation of the avoidance, protection, and compensatory measures included in **Mitigation Measures BIO-2** through **BIO-10** would reduce these impacts to less than significant (see previous impact discussions for special-status species, riparian habitat, and waters of the United States).

e) **No Impact**. No local policies or ordinances protecting biological resources within the study area have been established. In addition, no trees are proposed for removal, and implementation of the environmental commitments incorporated into the proposed project, which include environmental awareness training, work area limits, and limitations on

vegetation clearing and removal of large trees, would minimize or avoid damage to trees. Therefore, there would be no impact.

f) **No Impact.** The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and there would be no impact.

3.1.4 Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

Cultural resources include buildings, structures, objects, and archaeological sites listed on or eligible for listing on the California Register of Historical Resources (CRHR), unique archaeological resources, and human remains. To be eligible for the CRHR, a resource must embody more of the following four criteria and retain sufficient integrity to convey the reason for its importance: 1) is associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage, 2) is associated with the lives of persons important in our past, 3) embodies distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values or 4) has yielded, or is likely to yield, information important in prehistory or history. A resource may also qualify as an historical resource if it is included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code (PRC) Section 5020.1.

In an effort to identify any cultural resources present within the project area, DWR conducted the following steps:

- Reviewed a recent records search conducted by the California Historical Resources Information System (CHRIS) Northeast Information Center (NEIC) at California State University, Chico (NEIC File #D19-3);

- Reviewed a recent Cultural Resources Sensitivity Analysis Report prepared for the proposed Lower Deer Creek Flood and Ecosystem Improvement Project, which overlaps the current project area (the two projects are not related) (Offerman 2019);
- Reviewed DWR's in-house cultural resources database containing records of prior surveys and previously recorded cultural resources;
- Reviewed historical maps of the project area;
- Reviewed the USACE operations and maintenance (O&M) manual for Deer Creek (United States Army Corps of Engineers 1957)
- Requested a Sacred Lands File Search from the California Native American Heritage Commission (NAHC);
- Reached out to the single tribe listed for the project area by the NAHC; and
- Conducted an intensive pedestrian cultural resources survey of the project area.

The NEIC records search indicated that no cultural resources have been recorded within the project area or within a one-quarter mile radius of the project area. The results showed that the project area has not been previously surveyed for cultural resources. One pedestrian survey has been done within one-quarter mile (Deitz 1999), but no resources were recorded in that area. Two large studies that did not include a pedestrian survey encompass the project area: a multi-county geoarchaeological study (Meyer 2008) and a sensitivity analysis focusing on Lower Deer Creek and China Slough in Tehama County (Offerman 2019). Offerman's report concluded that the project area is sensitive for both prehistoric and historic-era resources and noted the presence of unrecorded historic-era levees. DWRs in-house cultural resources database does not contain any record of prior work in the project area, other than Offerman's study.

The NAHC responded to DWRs request for a search of the sacred lands file on November 26, 2019. The response letter indicated that there are no known sacred sites within the project area and provided contact information for one local tribe - the Paskenta band of Nomlaki Indians. DWR sent a letter to Chairman Alejandre of the Paskenta band of Nomlaki Indians on January 13, 2020. To date, no response has been received.

The pedestrian cultural resources survey was conducted by DWR archaeologists Monica Nolte and Sarah Heffner on November 22, 2019. Both Ms. Nolte and Ms. Heffner meet United States Secretary of Interior's Professional Qualification Standards for Archaeology. The survey utilized parallel transects spaced 15 meters or less apart. The repair site itself was not accessible due to eroding unstable slopes and thick riparian vegetation. Surface visibility was fair to excellent across other portions of the survey area, which included the slopes along both sides of the levee from the repair site to the proposed staging and laydown areas, the staging and laydown areas (which had been recently disked at the time of the survey), and a small buffer around them. Vegetation within the survey area included large sycamore trees, valley oak, and black oak, with an understory of wild grape and blackberry along the creek as well as annual forbs and grasses. Soils were mostly dark silty sand with many rounded cobbles along the levee. The levee matrix appears to consist of stream-rounded cobbles. The staging and laydown areas have been recently disked and have very little vegetation. No evidence of archaeological resources was noted during the survey; however, the levee to be repaired is over 70 years old and is shown on historical

maps starting in 1950 (United States Geological Survey 1950). During the 2019 pedestrian survey, the section of levee within the project area was recorded as the "Deer Creek Left Bank Unit 1 East Levee" following the naming convention for levees in the USACE National Levee database. The levee was documented on California Department of Parks and Recreation's 523 forms, which will be submitted to the NEIC for a primary number.

According to the USACE O&M manual (United States Army Corps of Engineers 1957), this section of the Deer Creek Left Bank Levee was constructed in 1949 by N. M. Ball Sons, working under contract for USACE. Another 0.7 mile of levee was added to the upstream end (east of the project area) in 1956 by contractor Butte Creek Rock Company. The creation of levees at low lying areas along both sides of Deer Creek, along with the straightening and widening of the creek channel, was authorized by the 1944 Flood Control Act and is part of the Sacramento River Flood Control Project, authorized under the Flood Control Act of 1917. The work along Deer Creek was designed to protect the town of Vina, California and adjacent agricultural lands from flood flows of up to 21,000 cubic feet per second (United States Army Corps of Engineers 1957). The Deer Creek Left Bank Unit 1 East Levee is approximately 3 miles long, with the proposed repair site near the middle of the levee. The levee within the project area is about 10 feet wide at the crown, 35 feet wide at the base, and 3.5 feet tall with a compacted gravel road running along the crown of the levee.

Because the Deer Creek Left Bank Unit 1 East Levee is more than 70 years old and associated with the Sacramento River Flood Control Project, it may qualify as an historical resource pursuant to CEQA Guidelines Section 15064.5. USACE is currently working on documenting the Sacramento River Flood Control Project as an historic district, and this levee could be a contributing element to that district (Pfertsh pers. comm. 2019). The levee within the project area has not been formally evaluated for eligibility for the National or California registers; however, it will be treated as an historical resource for the purposes of this project.

a, b) **Less Than Significant with Mitigation Incorporated.** The Deer Creek Left Bank Unit 1 East Levee is considered an historical resource for the purposes of the current project; however, the proposed project would not significantly impact the levee. The proposed project is a minor repair to that levee. The project would restore the levee to its prior condition and would not alter the shape, size, function, or visual character of the resource. In addition, the project would not alter integrity of location, design, setting, workmanship, feeling, or association. There would be an extremely minor alteration to integrity of materials, as some of the matrix of the levee toe has eroded away and would be replaced; however, this would not constitute a significant impact to the resource.

No other historical or archaeological resources as defined in Section 15064.5 were identified within the study area. However, if proposed construction activities were to result in damage to previously unidentified archaeological or historic resources the impact would be potentially significant. Implementation of the protection measures included in **Mitigation Measure CUL-1** would reduce potential impacts to less than significant.

Mitigation Measure CUL-1: Protect Newly Discovered Archaeological, Prehistoric, Historic, or Tribal Cultural Resources.

- Prior to the start of construction, DWR will provide an environmental tailgate training including an overview of the types of cultural resources, including tribal cultural resources, which could occur in the project area, a statement of confidentiality, and go over the steps that must occur if any potential cultural resources are identified in the project area.
- If any potential historical or archaeological materials are discovered during construction, work must be halted within 100 feet of the find until an archaeologist who meets United States Secretary of Interior's Professional Qualification Standards for Archaeology evaluates the find. If the discovered materials are potential tribal cultural resources, affiliated Native American tribes will be notified and provided an opportunity to participate in the evaluation of the find. Work may continue on other parts of the project while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section15064.5 [f]). After the assessment is completed, the archaeologist shall submit a report to DWR describing the significance of the discovery with cultural resource management recommendations. If the find is determined by DWR to be an historical, unique archaeological, or tribal cultural resource, time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available.
- Should significant archaeological resources be found, the resources shall be treated in compliance with PRC Section 21083.2. If the project can be modified to accommodate avoidance, preservation of the site is the preferred alternative. Data recovery of the damaged portion of the site also shall be performed pursuant to PRC Section 21083.2(d).

c) **Less Than Significant with Mitigation Incorporated.** No human remains or archaeological contexts have been identified in the study area. However, the potential to unearth human remains during construction still exists. Ground-disturbing activities have the potential to result in the discovery of, or inadvertent damage to, human remains, and this possibility cannot be completely eliminated. Consequently, there is a potential for significant impacts. Implementation of the treatment procedures included in **Mitigation Measure CUL-2** would reduce the potential impacts to less than significant.

Mitigation Measure CUL-2: If human remains are found, cease construction activities and implement appropriate procedures for the treatment of remains.

If human remains are found, such remains are subject to the provisions of California Health and Safety Code Sections 7050.5–7055. If remains or potential human remains are found, all work in the vicinity of the find must stop immediately. DWR or their designated representative will immediately notify the Tehama County Coroner. If the coroner determines the remains to be Native American, the coroner will notify the NAHC and DWR will open consultation with the individual(s) identified by the NAHC as the most likely descendant as set forth in PRC Section 5097.98. Work can restart after the remains have been investigated and recommendations have been made for the appropriate treatment and disposition of the remains.

3.1.5 Energy

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	VI. Energy. Would the project:				
a.	Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion

Temporary energy use in connection with project construction would entail consumption of diesel fuel and gasoline by construction equipment and by the transportation of earth moving equipment, construction materials, supplies, and construction personnel.

a) **Less than Significant**. Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a long-term condition of the project. Per the TCAPCD Construction Best Management Practices, all construction equipment would be maintained in proper tune according to manufacturer's specifications. In addition, the use of diesel construction equipment meeting current California Air Resources Board certification standards for off-road heavy-duty diesel engines would be maximized and unnecessary vehicle idling restricted to five minutes or less. With these measures in place, wasteful, inefficient, or unnecessary use of energy resources is not anticipated, and impacts would be less than significant.

b) **No Impact**. Through implementation of the TCAPCD Construction Best Management Practices, the proposed project would not conflict with or obstruct any State or local plans for renewable energy or energy efficiency; therefore, there would be no impact.

3.1.6 Geology and Soils

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Geology and Soils. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or	☐	☐	☐	☒

	alternative waste water disposal systems where sewers are not available for the disposal of waste water?				
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Discussion

a) **Less than Significant**. The proposed project is not located in an Alquist-Priolo Earthquake Fault Zone, as defined by the California Geological Survey, and no active or potentially active faults exist on, or in the immediate vicinity of, the levee repair site (California Department of Conservation 2019). The proposed project would not exacerbate seismic conditions that could expose people or structures to seismic risks or induce seismically-triggered landslides. Furthermore, the levee repairs would be constructed using current engineering specifications that meet seismic safety levels for the region. The potential for surface fault rupture, strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides would be less than significant.

b) **Less than Significant**. The proposed project is an erosion repair project that would import topsoil to restore and stabilize erosion damage on a levee. Erosion repair would involve ground-disturbing activities, including vegetation clearing and grubbing, excavation, and placement of rockfill and soil-filled rockfill. Ground-disturbing activities may result in minor removal of top soil, but top soil would be replaced after repair activities, reseeded, and returned to existing conditions or better, and any underlying top soil would have a low potential for erosion. In addition, environmental commitments incorporated into the proposed project, which include installation of erosion control materials, would minimize soil erosion. Impacts would therefore be less than significant.

c, d) **No Impact**. Two soil map units occur within the study area: Molinos complex (channeled) and Riverwash (United States Department of Agriculture 2014). Molinos complex soils are well-drained soils formed in recent alluvium. Riverwash consists of sand and gravel deposits. These soils have a low shrink-swell potential, and no construction of buildings or other structures are proposed. Therefore, there would be no impact.

e) **No Impact**. The proposed project would not involve the generation of sewage or wastewater that would require onsite treatment, and no septic systems or alternative wastewater disposal systems are proposed. There would be no impact.

f) **No Impact**. Soils within the study area consist of recent deposits and engineered soil from prior construction of the levee. These soils are not considered to contain paleontological resources, and proposed excavation activities would not extend into older sediments. Therefore, there would be no impact to paleontological resources.

3.1.7 Greenhouse Gas Emissions

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion

Greenhouse gases (GHGs) trap heat by preventing some of the solar radiation that hits the earth from being reflected back into space. Carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) are the principal GHGs associated with land use projects. CO2, CH4, and N2O occur naturally, and through human activity. Emissions of CO2 are largely by-products of fossil fuel combustion and CH4 results from the release of gases associated with agricultural practices and landfills. Human activities have substantially increased the concentration of GHGs in our atmosphere. This has intensified the greenhouse effect, increasing average global temperatures and resulting the climate change.

In May 2012, DWR adopted the DWR Climate Action Plan-Phase I: Greenhouse Gas Emissions Reduction Plan (GGERP), which details DWR's efforts to reduce its GHG emissions consistent with Executive Order S-3-05 and the Global Warming Solutions Act of 2006 (Assembly Bill 32). DWR also adopted the Initial Study/Negative Declaration prepared for the GGERP in accordance with the CEQA Guidelines review and public process. Both the GGERP and Initial Study/Negative Declaration are incorporated herein by reference (California Department of Water Resources 2012a; California Department of Water Resources 2012b). The GGERP provides estimates of historical (back to 1990), current, and future GHG emissions related to operations, construction, maintenance, and business practices (e.g. building-related energy use). The GGERP specifies aggressive 2020 and 2050 emission reduction goals and identifies a list of GHG emissions reduction measures to achieve these goals.

DWR specifically prepared its GGERP as a "Plan for the Reduction of Greenhouse Gas Emissions" for purposes of CEQA Guidelines section 15183.5. That section provides that such a

document, which must meet certain specified requirements, "may be used in the cumulative impacts analysis of later projects." Because global climate change, by its very nature, is a global cumulative impact, an individual project's compliance with a qualifying GHG Reduction Plan may suffice to mitigate the project's incremental contribution to that cumulative impact to a level that is not "cumulatively considerable" (see CEQA Guidelines, § 15064, subd. (h)(3)).

More specifically, "[l]ater project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG emissions reduction plan. "An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project" (CEQA Guidelines § 15183.5, subd. (b)(2)).

Section 12 of the GGERP outlines the steps that each DWR project will take to demonstrate consistency with the GGERP. These steps include: 1) analysis of GHG emissions from construction of the proposed project , 2) determination that the construction emissions from the project do not exceed the levels of construction emissions analyzed in the GGERP, 3) incorporation into the design of the project DWR's project level GHG emissions reduction strategies, 4) determination that the project does not conflict with DWR's ability to implement any of the "Specific Action" GHG emissions reduction measures identified in the GGERP, and 5) determination that the project would not add electricity demands to the State Water Project system that could alter DWR's emissions reduction trajectory in such a way as to impede its ability to meet its emissions reduction goals.

Consistent with these requirements, Appendix B, "Checklist and Assessment Form for Consistency and Compliance with GHG Emissions Reduction Plan," demonstrates that the proposed project would meet each of the required elements and would be consistent with the GGERP.

a) **Less than Significant**. Construction of the proposed project would generate GHG emissions from a variety of sources, including off-road construction equipment and on-road worker and hauling vehicles. Emissions from construction equipment, as well as estimates of the energy that would be used during the construction period, are summarized in Appendix B. It is estimated that the total construction activity emissions would be approximately 54.5 metric tons of carbon dioxide equivalent ($mtCO_2e$). This quantity would be well below the threshold of an "extraordinary" construction project, which is defined as a project that produces 25,000 $mtCO_2e$ or more during the entire construction phase, or 12,500 $mtCO_2e$ during any single year of construction. This quantity would also be below the TCAPCD established threshold of significance of 900 metric tons of CO_2 or CO_2e per year per the life of an approved project. Based on the analysis provided in the GGERP and the demonstration that the proposed project is consistent with the GGERP (Appendix B), DWR, as lead agency, has determined that the proposed project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs would be less than cumulatively considerable and, therefore, less than significant. DWR would further reduce the proposed project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs

by implementing DWR's project-level GHG emissions-reduction BMPs for construction activities.

Pre-Construction, Final Design, and Construction BMPs
While all projects will be evaluated to determine if these BMPs are applicable, not all BMPs would be appropriate for the proposed project.

- **GHG 1.** Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high-efficiency technologies are appropriate and feasible for the project or specific elements of the project.
- **GHG 2.** Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.
- **GHG 3.** Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.
- **GHG 4.** Evaluate the feasibility and efficacy of producing concrete on-site and specify that batch plants be set up on-site or as close to the site as possible.
- **GHG 5.** Evaluate the performance requirements for concrete used on the project and specify concrete mix designs that minimize GHG emissions from cement production and curing while preserving all required performance characteristics.
- **GHG 6.** Limit deliveries of materials and equipment to the site to off-peak traffic congestion hours. Construction BMPs apply to all construction and maintenance projects that DWR completes or for which DWR issues contracts. All projects are expected to implement all construction BMPs unless a variance is granted by the Division of Engineering Chief, Division of Operation and Maintenance Chief, or Division of Flood Management Chief (as applicable) and the variance is approved by the DWR CEQA Climate 18 Change Committee. Variances will be granted when specific project conditions or characteristics make implementation of the BMP infeasible and where omitting the BMP will not be detrimental to the project's consistency with the GGERP.
- **GHG 7.** Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by California Code of Regulations, Title 13, Section 2485, the State's airborne toxics control measure). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.
- **GHG 8.** Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an air quality control plan prior to commencement of construction.
- **GHG 9.** Implement a tire inflation program on the job site to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and

every two weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an air quality management plan prior to commencement of construction.

- **GHG 10.** Develop a project-specific ride share program to encourage carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- **GHG 11.** Reduce electricity use in temporary construction offices by using high-efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.
- **GHG 12.** For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box-type trailer is used for hauling, a SmartWay2 certified truck will be used to the maximum extent feasible.
- **GHG 13.** Minimize the amount of cement in concrete by specifying higher levels of cementitious material alternatives, larger aggregate, longer final set times, or lower maximum strength, where appropriate.
- **GHG 14.** Develop a project-specific construction debris recycling and diversion program to achieve a documented 50-percent diversion of construction waste.
- **GHG 15.** Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution, minimize, to the extent possible, uses of public roadways that would increase traffic congestion.

b) **No Impact**. DWR's GGERP is in compliance with all applicable plans and policies, and the proposed project is consistent with the GGERP. Therefore, there would be no impact.

3.1.8 Hazards and Hazardous Materials

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	Hazards and Hazardous Materials. Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Discussion

Site 80 and the surrounding lands are designated valley floor agriculture (Tehama County 2008). The California Department of Forestry and Fire Protection has developed a ratings scale for determining the potential for wildland fires. Site 80 is not located within a fire hazard severity zone (California Department of Forestry and Fire Protection 2019).

a, b) **Less than Significant**. Proposed construction would require the use of hazardous materials such as diesel, gasoline, hydraulic fluids, and lubricants. The improper use, handling, storage, transport, or disposal of hazardous materials constitute an inherent risk that could result in the exposure of workers to hazardous materials and, if those hazardous materials were accidentally released, become a hazard to the environment. However, implementation of the environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, and checking vehicles for leaks, would minimize impacts to water quality and the adjacent riparian habitat. Adherence to transport and storage regulations, as well as CVRWQCB Section 401 permit requirements (including implementation of a spill prevention, control and countermeasure plan), would further minimize impacts to water quality and result in a less than significant impact.

c) **No Impact.** There are no existing or proposed schools within one-quarter mile of Site 80. Therefore, there would be no impact.

d) **No Impact.** Site 80 is not located on or near a site that is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 (California Department of Toxic Substances Control 2019, California State Water Resources Control Board 2019). Therefore, there would be no impact.

e) **No Impact**. Although Site 80 is located within two miles of the Deer Creek Ranch Airport, the proposed project would not change the land use designation or construct tall structures at Site 80 and would not result in an airport-related safety hazard. Therefore, there would be no impact.

f) **No Impact**. Site 80 is located in a rural setting surrounded by agricultural lands. None of the proposed project activities would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Therefore, there would be no impact.

g) **Less than Significant**. Site 80 is located in a State Responsibility Area rated as a moderate fire hazard severity zone (California Department of Forestry and Fire Protection 2019) Construction activities would occur along levees where riparian vegetation is present and

adjacent lands are mostly irrigated orchards, vineyards, and pasture. These vegetation and land use types have a low potential for wildland fires. Furthermore, pursuant to construction BMPs, DWR contractors and staff would be equipped with fire safety equipment (e.g., water trucks and extinguishers) and fire safety plans to prevent accidental fire on the project site. Therefore, the proposed project would not result in significant increase in risk of fire that would expose people or structures to a significant risk of loss, injury or death involving wildland fires, and impacts would be less than significant.

3.1.9 Hydrology and Water Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation on- or off-site;				
(ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off site;	☐	☐	☐	☒
(iii) create or contributes runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒

(iv) impede or redirect floodflows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

a, e) **Less than Significant**. Exposed slopes during construction could be subject to rainfall and erosion and could cause temporary discharges of sediment and other contaminants in stormwater runoff to surrounding areas. Discharge of sediment and other pollutants could result in degradation of water quality in Deer Creek. However, installation of the turbidity curtain and implementation of the environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, checking vehicles for leaks, and installing erosion control materials, would minimize impacts to water quality. Adherence to the requirements of a general construction National Pollutant and Discharge Elimination System permit from the CVRWQCB and applicable water quality certification permits pursuant to Section 401 of the Clean Water Act to prevent water quality pollutants such as silt, sediment, hazardous materials, and construction related fluids from entering receiving waters would further minimize impacts and would result in less-than-significant impacts to water quality.

b) **No Impact.** The proposed project would not alter hydrology, pump groundwater, construct impermeable surfaces, or otherwise interfere with groundwater recharge. Therefore, there would be no impact.

c) **Less than Significant**. The proposed project would not alter the hydrology of Deer Creek or change drainage patterns. Restoration of the flood capacity of the levee would better accommodate high water events. The proposed project would prevent erosion and siltation during construction through the installation of the turbidity curtain and implementation of the environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, checking vehicles for leaks, and installing erosion control materials, and through compliance with applicable permits. By restoring the flood capacity of the SPFC levee, high water events would be more thoroughly contained by the levee. Impacts would therefore be less than significant.

d) **No Impact.** The proposed project activities would not be located in tsunami or seiche hazard zones. The proposed repair sites of the SPFC levees would be located in zones protected from flooding by the SPFC and would not be exposed to flood hazards during the timing of construction activities. Therefore, there would be no impact.

3.1.10 Noise

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.	Noise. Would the project result in:				
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Noise is defined as excessive, unwanted, unexpected, or unpleasant sound. The primary existing sources of noise in the vicinity of Site 80 are large equipment and vehicles associated with agricultural operations. The nearest railroad track passes through the town of Vina approximately three miles southwest of Site 80. The Deer Creek Ranch private airstrip is located approximately 1.5 miles southeast of Site 80.

Noise impacts are typically described as the effect on noise-sensitive land uses that are located within hearing range of a noise-producing activity. These noise-sensitive land uses are referred to as sensitive receptors and include residences, schools, hospitals, child-care facilities, and other similar land uses where noise could affect health or safety. A sensitive receptor's response to noise can vary depending on existing background (ambient) noises and the intensity, duration,

frequency, and timing of the noise. In general, the more that a noise exceeds the existing ambient noise level, intensity, duration, or frequency, the less acceptable the new noise will be, as judged by the exposed receptor. Sensitive receptors in the vicinity of Site 80 include rural residences associated with the surrounding agricultural lands. The nearest residence is located 0.25 mile southwest of Site 80. The next closest residence is 0.45 mile southwest of Site 80.

a) **Less than Significant**. The Noise Element of the Tehama County General Plan recommends the adoption of a County-wide noise control ordinance that would restrict construction activities to certain hours; however, Tehama County does not yet have an adopted noise ordinance (Tehama County 2009). Therefore, construction-related noise levels would not exceed established standards. During construction of the proposed project, a temporary increase in noise levels over ambient conditions would be created by heavy equipment. This increase would be minimal, would not be at a level that would substantially increase ambient noise levels, and would only be created during daylight hours. The distance from the nearest receptor (0.25 mile) would attenuate construction noise levels, and vegetation within and surrounding Site 80 would further attenuate noise levels. Noise impacts would be less than significant.

b) **Less than Significant**. Ground-borne vibration from construction activities at Site 80 would produce negligible vibration. The types of construction equipment associated with proposed repair activities include an excavator, loader, and water truck. This type of equipment is not identified by the California Department of Transportation (2013) or the United States Department of Transportation (2018) as associated with generation of notable vibration. Additionally, construction activities would take place 0.25 mile from the nearest residential development, which would provide ample separation for attenuation if any vibration were to occur. Therefore, vibration associated with proposed construction activities would result in a less than significant impact.

c) **No Impact.** Although Site 80 is located within two miles of a private airstrip, the proposed project would not establish new noise-sensitive land uses that could be exposed to airstrip noise. Therefore, the project would not expose people residing or working in the project area to excessive noise levels and there would be no impact.

3.1.11 Tribal Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

Tribal Cultural Resources (TCRs) are defined under PRC 21074 as sites, features, places, geographically defined cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe. In order to qualify as a TCR, the resource must be listed or eligible for listing in the CRHR or be determined to meet CRHR criteria by the agency after considering the significance of the resource to the tribe.

Pursuant to PRC 21080.3.1(b), prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin

consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe submitted a request to the lead agency, in writing, to be informed through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and if that tribe responds to the agency's invitation to consult on the project within 30 calendar days of receiving an invitation to consult on a project. No requests for formal notification of proposed projects in the vicinity of Site 80 have been received by DWR from California Native American tribes pursuant to PRC 21080.3.1(b); therefore, no formal consultation under PRC 21080.3.1-21080.3.2 was conducted.

When formal consultation under PRC 21080.3.1-21080.3.2 does not apply, DWR adheres to its own Tribal Engagement Policy and determines if there are potential impacts to TCRs, as defined by PRC 21074. Archaeological resources and human remains are frequently considered TCRs; therefore, many of the identification efforts described under Section 3.1.4, Cultural Resources, also apply to the identification of TCRs. These identification efforts included a recent (2019) NEIC records search, review of DWR's in-house cultural resources database, an intensive pedestrian cultural resources survey, a NAHC Sacred Lands File Search, and outreach to a California Native American tribe listed by the NAHC for the project area. These efforts did not result in the identification of any potential TCRs, archaeological resources, or human remains, although one historic-era levee was recorded (See Section 3.1.4 for details). The tribal outreach process is described in more detail below.

On November 25, 2019, DWR cultural resources staff submitted a sacred lands file search request to the NAHC for the project. The NAHC responded on November 26, 2019 reporting that the sacred lands file search was negative and providing contact information for one California Native American tribe. DWR sent a project notification letter and invitation to consult under DWR's tribal consultation policy to Chairman Alejandre of the Paskenta Band of Nomlaki Indians on January 13, 2020. The letter described the proposed project, provided project location maps, and requested information concerning any resources of importance to the tribe in the project vicinity. To date, no response has been received.

a) **Less than Significant with Mitigation Incorporated**. No TCRs or sacred lands have been identified within the vicinity of Site 80. However, it is recognized that not all TCRs that are archaeological in nature are visible on the soil surface and there is the potential for uncovering previously unknown resources during proposed project construction. Such resources may be determined significant pursuant to PRC Section 5024.1. If project construction activities were to affect TCRs in a manner that would damage their cultural value, a significant impact could result. In the unlikely event that TCRs are identified during proposed project construction, implementation of the protection measures included in **Mitigation Measures CUL-1** and **CUL-2** (refer to the Cultural Resources section) would reduce potential impacts to less than significant.

3.1.12 Utilities and Service Systems

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. Utilities and Service Systems. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

a, c) **No Impact.** The proposed project would not result in the relocation or construction of any new facilities for stormwater, wastewater, or other utilities or result in population increase that would generate an increase in demand for utilities and service systems requiring new construction. Furthermore, the proposed project would not require wastewater treatment services. Therefore, there would be no impact.

b) **Less than Significant**. The proposed project would require minimal water supply during construction activities for dust control. Water would be supplied by DWR contractors and trucked in via water trucks. Water would be sourced from locally available non-potable water in the vicinity to the proposed project. The use of water for dust control and irrigation would not substantially increase non-potable water use over current conditions compared to local uses, such as agricultural irrigation. Water demand would be temporary and minor, and no new or expanded entitlements would be required. Therefore, potential impacts associated with availability of water supplies would be less than significant.

d, e) **No Impact**. Materials generated from the proposed project construction activities in excess of required materials would be hauled off-site to the Tehama County landfill, which is permitted to receive construction/demolition waste. The amount of solid waste generated by the proposed project would be minimal, would not exceed capacity or impair the attainment of solid waste reduction goals, and would comply with federal, State, and local statutes related to solid waste. Therefore, there would be no impact.

3.1.13 Mandatory Findings of Significance

	XXI. Mandatory Findings of Significance	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” meant that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of the other current projects and the effects of probable future projects)?	☐	☒	☐	☐
c.	Does the project have environmental effects which will cause substantial	☐	☒	☐	☐

adverse effects on human beings, either directly or indirectly?

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a) **Less than Significant with Mitigation Incorporated**. The proposed project would be temporary in nature and involve construction activities to repair an eroded SPFC levee and improve flood protection in the near future, thus providing a net benefit to the surrounding area. The proposed project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce or restrict the range of rare or endangered plants or animals; or, eliminate important examples of the major periods of California history or prehistory. As discussed in the analyses provided in this Initial Study, adherence to federal, State, and local regulations, the environmental commitments incorporated as part of the proposed project, and proposed mitigation measures BIO-1 through BIO-10, CUL-1, and CUL-2 would reduce potentially significant impacts to biological resources, cultural resources, and TCRs to less-than-significant levels.

b) **Less than Significant with Mitigation Incorporated**. As noted throughout this Initial Study, the potential impacts of the proposed project would be site-specific, temporary, and short-term construction-related impacts. As noted above, potential direct and indirect impacts of the proposed project were determined to be fully avoided, minimized, or reduced to a less-than-significant level with incorporation of mitigation measures AQ-1, BIO-1 through BIO-10, CUL-1, and CUL-2. As a result, the potential impacts of the proposed project are not considered cumulatively considerable, and impacts would be less than significant.

c) **Less than Significant with Mitigation Incorporated.** The potential impacts of the proposed project would be site-specific, temporary, and short-term construction-related impacts. These impacts may include limited adverse effects on biological resources, cultural resources, and TCRs. However, the proposed project would not include activities or uses that may cause substantial adverse effects on human beings, either directly or indirectly, or on the physical environment. The proposed project has been designed to meet DWR flood engineering standards and would adhere to local codes and regulations as conditions of project approval. Compliance with applicable local, State, and federal standards, as well as implementation of project environmental commitments and proposed mitigation measures (a summary of the mitigation measures is provided in Appendix A, “Mitigation Monitoring and Reporting Program”), would result in less-than-significant impacts.

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Appendix A

Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

Introduction

This mitigation monitoring and reporting program (MMRP) was prepared by the California Department of Water Resources (DWR) for the 2017 Storm Damage Rehabilitation Site 80: Deer Creek Levee Erosion Repair Project (project). The Initial Study (IS) and mitigated negative declaration (MND) for this project include a series of mitigation measures to reduce potential environmental impacts during project construction to less than significant levels. Those mitigation measures are incorporated into this MMRP and are listed in Table 1.

Legal Requirements

Under CEQA, public agencies are not to approve projects, as proposed, if there are feasible alternatives or feasible mitigation measures available that would substantially lessen the significant environmental effects of such projects (California Public Resources Code [PRC] 21002). Furthermore, California PRC Section 21081.6 states:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation.
- The monitoring program must be adopted when a public agency makes its findings under CEQA. The program must be designed to ensure compliance with mitigation measures during project implementation.

Authorities and Responsibilities

DWR will have the primary responsibility for monitoring the implementation of mitigation measures identified in the MMRP. DWR has the authority to stop any activity associated with the project if the activity is determined to be a deviation from the approved project or the adopted mitigation measures. DWR may delegate responsibility for monitoring to other agencies or consultants and will ensure that the delegated person is qualified to monitor compliance.

Implementation and Compliance Approval Process

Table 1 lists the mitigation measures identified in the IS and MND. Table 1 also identifies the party responsible for ensuring implementation of the mitigation measure and the timing of mitigation measure implementation.

Table 1. Draft Mitigation, Monitoring, and Reporting Program for the Site 80: Deer Creek Levee Erosion Repair Project.

Title of Measure	Description of Measure	Implementing Responsibility	Timing
Air Quality			
AQ-1: Implement TCAPCD Construction Best Management Practices	• Maintain all construction equipment in proper tune according to manufacturer's specifications. • Maximize to the extent feasible, the use of diesel construction equipment meeting current California Air Resources Board certification standards for off-road heavy-duty diesel engines. • If required by TCAPCD, all off-road heavy-duty diesel equipment greater than 50 horsepower used in execution of the project shall be registered with the Air Resources Board's Diesel Off-Road Online Reporting System (DOORS) and meet all applicable standards for replacement and/or retrofit. • If required by TCAPCD, all portable equipment used in the execution of project construction, including generators and air compressors rated over 50 brake horsepower, shall be registered in the Portable Equipment Registration Program or permitted through the TCAPCD. • Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission. • Haul vehicles transporting soil into or out of the property shall be covered to reduce track out. • Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary to reduce fugitive dust emissions.	DWR, construction contractor	During Construction
Biological Resources			
BIO-1: Implement protection measures for the valley elderberry longhorn beetle	• Avoid work during the flights season of the valley elderberry longhorn beetle (March 15 to June 15).	DWR, construction contractor	Prior to Construction and

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	• All suitable elderberry shrubs (i.e., shrubs with stem diameters of at least 1 inch when measured at ground level) would be avoided if not designated for removal or trimming. • A 5-foot avoidance buffer would be established from the dripline of any elderberry shrubs. These avoidance buffers would be avoided by all personnel and repair activities. Shrubs would be flagged or temporarily fenced, as needed, with guidance from the Designated Biologist and designated as biologically sensitive areas. When feasible, fencing would be placed at the buffer.	DWR will consult with USFWS	During Construction
BIO-2: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species	• Instream construction activities shall occur between July 15 and September 15 to avoid adverse impacts to Chinook salmon. Instream work could start sooner if CDFW determines that the adult spring-run Chinook salmon are no longer present based on environmental conditions and real time passage data. Instream work could be extended to October 14th if environmental conditions which would preclude juvenile steelhead and spring-run Chinook salmon emigration or adult steelhead and late-fall-run Chinook salmon immigration are expected to persist. Instream work outside of the July 15 to September 15 work window must be approved by CDFW and NMFS with details on how take will be avoided and / or minimized. • Instream work shall only occur for up to 12 hours per day to allow a 12-hour window of time for fish to migrate through without noise disturbance. • Prior to beginning instream work, the excavator bucket shall be operated to “tap” the surface of the water.	DWR	Prior to Construction and During Construction

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	• Instream operation of the excavator bucket shall be conducted slowly and deliberately to allow fish time to seek refuge outside the work area.		
BIO-3: Compensate for permanent loss of riparian habitat	• The permanent loss of riparian habitat shall be compensated for by restoring riparian habitat (and/or shaded riverine aquatic habitat) at an adjacent offsite or onsite location by planting native tree and shrub species according to a plan developed in coordination with the appropriate agencies, including CDFW, NMFS, and/or USFWS, or by purchasing riparian mitigation credits from an approved bank. Mitigation ratios shall be determined in coordination with CDFW and USACE during the permitting process.	DWR	Post-Construction
BIO-4: Implement Specific Protection Measures for the Western Pond Turtle	• A qualified biologist shall conduct pre-construction surveys for western pond turtle in suitable upland and aquatic habitat within 48 hours prior to the start of construction activities. If there is a lapse in construction activities of two weeks or greater, the area shall be resurveyed within 24 hours prior to recommencement of work. • If western pond turtles are observed within the project area during project construction, CDFW shall be notified and construction activities in the vicinity shall cease until protective measures are implemented or it is determined that the pond turtle will not be harmed. If it is determined that the pond turtle would be harmed by continued construction activities, a qualified	DWR, construction contractor	Prior to Construction and During Construction

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	biologist shall move the western pond turtle to a suitable location outside of the project area.		
BIO-5: Conduct pre-construction nesting bird surveys during the nesting season.	• If construction is scheduled to occur during the bird nesting season (February 1 through September 15), pre-construction nesting bird surveys shall be conducted by a qualified biologist in all suitable nesting habitats within the project area. • Nesting surveys shall be conducted in accordance with the recommended timing, methodology, and or/protocol for each bird species. • Surveys shall also include a 0.25-mile radius outside of the project area for Swainson's hawk, western yellow-billed cuckoo, and bald eagle, and a 500-foot radius outside of the project area for other nesting birds. • Surveys shall be conducted not more than 5 days prior to the start of construction, or as prescribed by established survey protocols.	DWR	Prior to Construction
BIO-6: Establish nest protection buffers for active bird nests.	• If an active bird nest is located in the survey area, an appropriate nest protection buffer shall be established by a qualified biologist based on the species, type of construction activities, and line of sight to the work area. Under this measure, nesting birds and offspring would not be disturbed or killed, and nests and eggs would not be destroyed. • Work shall be conducted no less than 500 feet from an active raptor nest and 100 feet from an active migratory bird nest, though buffer distances for all nesting birds may differ based on consultation with CDFW and USFWS. • To prevent encroachment, the established buffer(s) shall be clearly marked by high-visibility material if it has been determined by the qualified biologist that high-visibility	DWR	Prior to Construction and During Construction

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	material would not attract predators to the nest site. No construction activities, including tree removal, shall occur within the buffer zone until the young have fledged or the nest is no longer active, as confirmed by the qualified biologist.		
BIO-7: Monitor active nests within nest protection buffer.	• If project activities must occur within established buffer zones, a qualified biologist shall establish monitoring measures, including frequency and duration, based on species, individual behavior, and type of construction activities. • If birds are showing signs of distress within the established buffer(s), work activities shall be modified, or the buffer(s) shall be expanded, to prevent birds from abandoning their nest. • At any time, the biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to nest abandonment. Work shall not resume until corrective measures have been taken or it is determined that continued activity would not adversely affect nest success.	DWR	During Construction
BIO-8: Conduct pre-construction surveys for western red bat and pallid bat.	• A qualified biologist shall conduct pre-construction surveys of all trees proposed for removal for western red bat, pallid bat, and maternity roosts within 24 hours prior to the start of construction activities. • If the tree removal lapses for more than 24 hours after the survey, an additional survey will be required.	DWR	Prior to Construction
BIO-9: Implement protective measures during removal of trees with bat roosts.	• All removal of trees with bat roosts shall be conducted between September 1 and October 30, which corresponds to a time period when bats would not be caring for non-volant young and have not yet entered torpor, or after October 30 to avoid impacts to hibernating bats (or earlier than October 30 if evening	DWR	During Construction

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	temperatures fall below 45 degrees Fahrenheit and/or more than a half inch of rainfall occurs within 24 hours). • If a non-maternity roost is found in a tree that must be removed or trimmed between September 1 and October 30, a qualified biologist shall monitor tree removal/trimming. Tree removal/trimming shall occur over two consecutive days. On the first day in the afternoon, limbs and branches shall be removed using chainsaws only. Limbs with cavities, crevices, or deep bark fissures shall be avoided, and only branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed. Prior to tree removal/trimming, each tree shall be shaken gently and several minutes shall pass before felling trees or limbs to allow bats time to arouse and leave the tree. The biologist shall search downed vegetation for dead or injured bat species and report any dead or injured special-status bat species to CDFW. • If a maternity roost is identified, a no-disturbance buffer shall be established and maintained until a qualified biologist determines that the roost is no longer active.		

Title of Measure	Description of Measure	Implementing Responsibility	Timing
BIO-10: Compensate for impacts to waters of the United States.	If impacts to waters of the United States cannot be feasibly avoided, DWR shall implement one of the following compensatory measures: • Pay in-lieu fees for wetlands or waters of the United States permanent impacts authorized by the USACE through the in-lieu fee program of the Sacramento District of the USACE and administered by the National Fish and Wildlife Foundation, at a ratio determined in consultation with USACE. -or- • Secure waters of the United States credits at a USACE-approved mitigation bank for permanent impacts at the repair site at a ratio determined in consultation with USACE.	DWR	Post-Construction
Cultural Resources			
CUL-1: Protect Newly Discovered Archeological, Prehistoric, Historic, or Tribal Cultural Resources.	• Prior to the start of construction, DWR will provide an environmental tailgate training including an overview of the types of cultural resources, including tribal cultural resources, which could occur in the project area, a statement of confidentiality, and go over the steps that must occur if any potential cultural resources are identified in the project area. • If any potential historical or archaeological materials are discovered during construction, work must be halted within 100 feet of the find until an archaeologist who meets United States Secretary of Interior's Professional Qualification Standards for Archaeology evaluates the find. If the discovered materials are potential tribal cultural resources, affiliated Native American tribes will be notified and provided an opportunity to participate in the evaluation of the find. Work may continue on other parts of the project while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section15064.5 [f]). After the assessment is completed, the archaeologist shall submit a report	DWR, construction contractor, qualified archaeologist	During Construction

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	to DWR describing the significance of the discovery with cultural resource management recommendations. If the find is determined by DWR to be an historical, unique archaeological, or tribal cultural resource, time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. • Should significant archaeological resources be found, the resources shall be treated in compliance with PRC Section 21083.2. If the project can be modified to accommodate avoidance, preservation of the site is the preferred alternative. Data recovery of the damaged portion of the site also shall be performed pursuant to PRC Section 21083.2(d).		
CUL-2: If human remains are found, cease construction activities and implement appropriate procedures for the treatment of remains.	If human remains are found, such remains are subject to the provisions of California Health and Safety Code Sections 7050.5–7055. If remains or potential human remains are found, all work in the vicinity of the find must stop immediately. DWR or their designated representative will immediately notify the Tehama County Coroner. If the coroner determines the remains to be Native American, the coroner will notify the NAHC and DWR will open consultation with the individual(s) identified by the NAHC as the most likely descendant as set forth in PRC Section 5097.98. Work can restart after the remains have been investigated and recommendations have been made for the appropriate treatment and disposition of the remains.	DWR, construction contractor	During Construction
Greenhouse Gas Emissions			
Implement best management practices to avoid and minimize impacts related to greenhouse gas emissions.	As an environmental commitment, the proposed project will implement the following DWR project-level GHG emissions-reduction BMPs for construction activities:	DWR, construction contractor	Prior to Construction and During Construction

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	• GHG 1. Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high-efficiency technologies are appropriate and feasible for the project or specific elements of the project. • GHG 2. Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines. • GHG 3. Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible. • GHG 4. Evaluate the feasibility and efficacy of producing concrete on-site and specify that batch plants be set up on-site or as close to the site as possible. • GHG 5. Evaluate the performance requirements for concrete used on the project and specify concrete mix designs that minimize GHG emissions from cement production and curing while preserving all required performance characteristics. • GHG 6. Limit deliveries of materials and equipment to the site to off-peak traffic congestion hours. Construction BMPs apply to all construction and maintenance projects that DWR completes or for which DWR issues contracts. All projects are expected to implement all construction BMPs unless a variance is granted by the Division of Engineering Chief, Division of Operation and Maintenance Chief, or Division of Flood Management Chief (as applicable) and the variance is approved by the DWR CEQA Climate 18 Change Committee. Variances will be granted when specific project conditions or characteristics make implementation of the BMP infeasible and		

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	where omitting the BMP will not be detrimental to the project's consistency with the GGERP. • GHG 7. Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by California Code of Regulations, Title 13, Section 2485, the State's airborne toxics control measure). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement. • GHG 8. Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an air quality control plan prior to commencement of construction. • GHG 9. Implement a tire inflation program on the job site to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and every two weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an air quality management plan prior to commencement of construction. • GHG 10. Develop a project-specific ride share program to encourage carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes. • GHG 11. Reduce electricity use in temporary construction offices by using high-efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for		

Title of Measure	Description of Measure	Implementing Responsibility	Timing
	turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business. • GHG 12. For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box-type trailer is used for hauling, a SmartWay2 certified truck will be used to the maximum extent feasible. • GHG 13. Minimize the amount of cement in concrete by specifying higher levels of cementitious material alternatives, larger aggregate, longer final set times, or lower maximum strength, where appropriate. • GHG 14. Develop a project-specific construction debris recycling and diversion program to achieve a documented 50-percent diversion of construction waste. • GHG 15. Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution, minimize, to the extent possible, uses of public roadways that would increase traffic congestion.		
Tribal Cultural Resources			
CUL-1: Protect Newly Discovered Archeological, Prehistoric, Historic, or Tribal Cultural Resources.	Refer to the "Cultural Resources" mitigation measures section.		

Table Key:	
BMPs	best management practices
CDFW	California Department of Fish and Game
DWR	California Department of Water Resources

CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
GHG	greenhouse gas
NAHC	Native American Heritage Commission
NMFS	National Marine Fisheries Service
PRC	Public Resources Code
TCAPCD	Tehama County Air Pollution Control District
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

Appendix B

Checklist and Assessment Form for Consistency and Compliance with Greenhouse Gas Emissions Reduction Plan

State of California DEPARTMENT OF WATER RESOURCES California Natural Resources Agency

Greenhouse Gas(GHG)Emissions Reduction Plan Consistency Determination

For Projects Using Only Department of Water Resources(DWR) staff and Equipment

This form is to be used by DWR project managers to document a DWR CEQA project's consistency with the DWR Greenhouse Gas Emissions Reduction Plan. This form is to be used only when DWR is the Lead Agency and when only DWR staff and equipment are used to implement the project.

Additional Guidance on filling out this form can be found at:
http://dwrclimatechange.water.ca.gov/guidance_resources.cfm

The DWR Greenhouse Gas Emissions Reduction Plan can be accessed at:
https://www.water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan

Project Name:	2017 Storm Damage Rehabilitation Site 80: Deer Creek Levee Erosion Repair
Environmental Document Type:	Initial Study/Mitigated Negative Declaration
Manager's Name:	Dave Wheeldon
Manager's E-mail:	Dave.Wheeldon@water.ca.gov
Division:	Division of Flood Management
Office, Branch, or Field Division:	Flood Projects Office, Flood System Sustainability Branch

Short Project Description:

The proposed project involves the waterside erosion repair of a 175-foot section of State Plan of Flood Control levee along Deer Creek. Implementation of the proposed project would include construction activities at the erosion repair site, staging of vehicles and equipment in a designated staging area, and storage of imported materials at a designated interim laydown area. Repair activities would include excavating the erosion area; shaping the levee slope; placing launch rock, soil-filled rock fill, and an agricultural soil layer; and installing willow pole cuttings, sedge plugs, grass plugs, and willow fascine bundles.

Project GHG Emissions Summary:

☒ All emissions from the project will occur as ongoing operational, maintenance, or business activity emissions and therefore have already been accounted for and analyzed in the GGERP. (This box must be checked if you are using this form. If you cannot check this box you must use a different form).

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State of California DEPARTMENT OF WATER RESOURCES California Natural Resources Agency

Project GHG Reduction Plan Checklist

☒ All Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project (Project Level GHG Emissions Reduction Measures)

Or

☐ All feasible Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project and Measures not incorporated have been listed and determined not to be apply to the proposed project (include as an attachment)

Project does not conflict with any of the Specific Action GHG Emissions Reduction Measures (Specific Action GHG Emissions Reduction Measures)

Would implementation of the project result in additional energy demands on the SWP system of 15 GWh/yr or greater?

☐ YES ☒ NO

If you answered Yes, attach a Renewable Power Procurement Plan update approval letter from the DWR SWP Power and Risk Office

Is there substantial evidence that the effects of the proposed project may be cumulatively considerable notwithstanding the proposed project's compliance with the requirements of the DWR GHG Reduction Plan?

☐ YES ☒ NO

If you answered Yes, the project is not eligible for streamlined analysis of GHG emissions using the DWR GHG Emissions Reduction Plan. (See CEQA Guidelines, section 15183.5, subdivision (b)(2).)

Based on the information provided above and information provided in associated environmental documentation completed pursuant to the above referenced project, the DWR CEQA Climate Change Committee has determined that the proposed project is consistent with the DWR Greenhouse Gas Reduction Plan and the greenhouse gasses emitted by the project are covered by the plan's analysis.

Project Manager Signature: _____ Date: 1/27/2020

C4 Approval Signature: Jennifer Morales Date: 1/29/2020

Attachments:

☐ List and Explanation of excluded Project Level GHG Emissions Reduction Measures

☐ Plan to update Renewable Energy Procurement Plan from DWR SWP Power and Risk Office

Links:
https://current.water.ca.gov/programs/icc/SitePages/Home.aspx
https://water.ca.gov/Programs/All-Programs/Climate-Change-Program

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Project Name **- 2017 STORM DAMAGE REHABILITATION SITE 80: DEER CREEK LEVEE EROSION REPAIR**

Emissions from Construction Equipment

Type of Equipment	Maximum Number per Day	Total Operation Days	Total Operation Hours[1]	Fuel Consumption Per Hour[2]	Total Fuel Consumption (gal. diesel)	CO_2e/gal diesel[3]	Total CO_2 Equivalent Emissions (metric tons)	
Excavator	1	10.5	84	5.12	430	0.010	4	NOTE: Construction schedule allows for a 12+ hour day, so for each estimated day of operation a factor of 1.5 was used.
Hydroseeder	1	0.375	3	0.60	2	0.010	0	Estimated days prior to multiplication factor were estimated to be 7, 0.25, 8, 10, and 8, respectively.
Rubber Tired Loader	1	12	96	6.76	649	0.010	7	
Pick-Up Truck	1	15	120	11.51	1,381	0.010	14	
4000/ga OH Water Truck	1	12	96	12.35	1,186	0.010	12	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
			0		-	0.010	-	
TOTAL					**3,648**		**38**	

[1] An 8-hour work day is assumed.

[2] California Air Resource Board Offroad 2007 Emissions Inventory fuel consumption factors

[3] World Resources Institute-Mobile combustion CO_2 emissions tool, June 2003 Version 1.2

Emissions from Transportation of Construction Workforce

Average Number of Workers per Day	Total Number of Workdays	Average Distance Travelled (round trip)	Total Miles Travelled	Average Passenger Vehicle Fuel Efficiency[4]	Total Fuel Consumption (gal. gasoline)	CO_2e/gal Gasoline[3]	Total CO_2 Equivalent Emissions (metric tons)	
7	30	25	5250	20.8	**252.4**	0.009	**2**	Distance allows for workforce to commute from Red Bluff, Corning, Orland, or Chico.

[4] United States Environmental Protection Agency. 2008. Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008. [EPA420-R-08-015]

Emissions from Transportation of Construction Materials

Trip Type	Total Number of Trips	Average Trip Distance	Total Miles Travelled	Average Semi-truck Fuel Efficiency	Total Fuel Consumption (gal. diesel)	CO_2e/gal Diesel [3]	Total CO_2 Equivalent Emissions (metric tons)	
Delivery	92	90	8280	6	1380	0.010	14.34009888	Assumes ag soil imported from Teichert in Sacramento (120 miles) and rock material from a quarry near Smartsville (85 miles).
TOTAL							**14.34009888**	Assuming 15 loads for ag soil and 77 for the remaining material, average trip distance would be 120*15 + 77*85 / 92 = 90

Construction Electricity Emissions

	MWh of electricity	$mtCO2_e$/ MWh [5]	CO_2 e emissions
Electricity Needed	0	0.277	0

[5] eGRID2010 Version 1.0 *CAMX-WECC sub-region*.

Total Construction Activity Emissions	54.5	(from lines 25, 32, 39, and 43)
Total Years of Construction	0.083333333	
Expected Start Date of Construction	summer/fall 2020	

Estimated Project Useful life	10	Years
Average Annual Total GHG Emissions [7]	5.4518256	**MT CO_2 equivalents**
Max. Year Construction GHG Emissions [8]		**MT CO2 equivalents**

[7] short-term construction emissions amortized over life of project

[8] Emissions total from single year of construction when emissions peak (for multi-year construction projects)