

Lake Oroville
Permanent Lakeside Access Road
DRAFT Initial Study/
Proposed Mitigated Negative Declaration



California Department of Water Resources
1416 Ninth Street
Sacramento, CA 95814

JUNE 2020

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Initial Study

Permanent Lakeside Access Road

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| 1. Project Title | Lake Oroville Permanent Lakeside Access Road |
| 2. Lead Agency Name and Address | CA Department of Water Resources 1416 Ninth Street Sacramento, California 95814 |
| 3. Contact Person and Phone Number | Stephanie Chun Sr. Environmental Scientist, Specialist stephanie.chun@water.ca.gov (916) 376-1908 |
| 4. Project Location | Approximately 4 miles northeast of the city of Oroville, Township 20 north, Range 4 east, Section 35, within Oroville Dam USGS 7.5-minute quadrangle in Butte County, near 39.544405°N, -121.490936°W. |
| 5. Project Sponsor's Name and Address | CA Department of Water Resources 3500 Industrial Blvd., Second Floor Sacramento, CA 95691 |
| 6. General Plan Designation | N/A – State-owned Water Conveyance System |
| 7. Zoning | Public Land |
| 8. Description of Project | DWR is proposing to improve an existing access route to alleviate safety and security concerns with the public crossing the Lake Oroville Spillway bridge to access the recreational Spillway Boat Ramp and Day Use Area. This proposed access, Lake Oroville Permanent Lakeside Access Road, will be improved and constructed so it can be used for public access to the boat launch for an estimated six months of the year reducing security costs and improving public safety. The road project consists of clearing and grading the site; excavation of soils and rock; placement of aggregate base, concrete, drainage culverts, and rock slope protection; and the installation of traffic safety rails, barriers, and |

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| | signage. In addition, erosion of an adjacent Boat Ramp parking area outfall channel will be repaired concurrently. This project will take approximately 4 months to construct and is scheduled to be built in the late summer to winter of 2020. |
| 9. Surrounding Land Uses and Setting | The general project area is comprised of developed recreational areas, lakebed, and dam and spillway associated with the State Water Project, and chaparral/grassland. |
| 10. Other Public Agencies Whose Approval is Required | US Army Corps of Engineers, Central Valley Regional Water Quality Control Board, CA Department of Fish and Wildlife, Office of Historic Preservation, Federal Energy Regulatory Commission |
| 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? If so, is there a plan for consultation? | Yes, consultation was requested and the process is described in more detail in the Tribal Cultural Resources section of the Initial Study. |

MITIGATED NEGATIVE DECLARATION

PROJECT: Lake Oroville Permanent Lakeside Access Road

LEAD AGENCY: California Department of Water Resources (DWR)

PROJECT LOCATION: The Proposed Project is located in Butte County, California, approximately 4 miles northeast of the city of Oroville, in the lakebed of Lake Oroville.

PROJECT DESCRIPTION: DWR is proposing to conduct the Lake Oroville Permanent Lakeside Access Road Project (Proposed Project) to improve an existing access road to alleviate safety and security concerns with the public crossing the Lake Oroville Spillway bridge to access the recreational Spillway Boat Ramp and Day Use Area. This proposed access road will be improved and constructed so it can be used for public access to the boat launch for an estimated six months of the year and will reduce security costs and improve public safety. The Proposed Project consists of clearing and grading the site; excavating soils and rock; placing aggregate base, concrete, drainage culverts, and rock slope protection; and installing traffic safety rails, barriers, and signage. Erosion at an adjacent boat ramp outfall channel will be repaired concurrently. This Proposed Project will take approximately 4 months to construct and is scheduled to occur in the late summer to winter of 2020.

DETERMINATION: An Initial Study (IS) was prepared to determine if the Proposed Project has the potential to cause significant environmental impacts. Based on the analysis conducted in the IS, it has been determined that implementing the Proposed Project will not have a significant impact on the environment after the adoption and implementation of mitigation measures.

MITIGATION MEASURES: The following mitigation measures will be implemented as part of the Proposed Project to avoid, minimize, rectify, reduce or eliminate, or compensate for potentially significant environmental impacts. Implementation of these mitigation measures would reduce the potentially significant environmental impacts of the Proposed Project to less than significant levels:

Mitigation Measure Bio-1 Avoid and minimize potential impacts to special-status plants and wildlife

The following measures will be implemented to minimize the potential impacts to plants and wildlife that may occur within the Proposed Project area:

- a) A qualified biologist will conduct pre-construction surveys no more than two weeks prior to the start of construction for any special-status plants or wildlife that have the potential to occur within the Proposed Project area.
- b) Prior to the start of construction, boundaries of the work site shall be delineated by flagging and staking or other similar method to show the exact location of

work. No work shall occur outside the delineated area. If flagging is disturbed or removed, it shall be replaced immediately. Environmentally sensitive areas within the Proposed Project boundaries may be marked with either large flagged stakes connected by cord, or survey laths or wooden stakes prominently flagged with survey ribbon or fencing. All flagging shall be removed upon project completion.

- c) To the extent practicable, construction activities causing disturbances to environmental resources will be minimized, and best efforts shall be used to avoid removing or damaging trees, vegetation, and other habitat.
- d) Proposed Project activities shall be performed during daylight hours.
- e) Prior to beginning work, a Worker Environmental Awareness Program (WEAP) training will be provided by a qualified biologist. All personnel who will be at the work site during construction activities are required to complete the training prior to beginning work at the site. The training will be given at or near the work site. The WEAP training will consist of briefing sessions developed by biologists, archaeologists and others familiar with environmental, cultural and tribal resources at the work site. At a minimum, the environmental portion of the training shall include a description and discussion of the importance of avoiding impacts to special-status wildlife, the general measures that are being implemented to conserve these species as they relate to the Proposed Project and Proposed Project area, and procedures to follow should they encounter wildlife during work. New personnel are required to attend the training prior to beginning work. A refresher WEAP training will be provided if needed to present additional topics pertaining to the above subjects.
- f) A Biological Monitor will be either present or on-call during project activities and will have the authority to halt work activities if concern over environmental resources becomes apparent.
- g) The qualified biologist shall be notified if wildlife is encountered in the project site. Wildlife shall be given the opportunity to escape during construction activities and construction personnel shall avoid harming wildlife within the construction site. Construction personnel shall not move, handle, or harass wildlife on site. If federally or State-listed species are observed on site, all work will halt and the animal will be allowed to leave the Proposed Project area on their own. In the event wildlife is harmed or killed, the qualified biologist shall be notified of the incident. If the specimen is a State or federally listed species, the Department will notify the appropriate agency (i.e. USFWS, CDFW).
- h) The worksite shall be kept clean and trash-free at all times. All trash shall be properly contained, removed from the worksite, and disposed of properly to prevent attracting wildlife.

- i) Construction related vehicles within the Proposed Project area are prohibited from exceeding 15 miles per hour on straight and level roads, or 10 miles per hour in areas with curves or steepness. Speed signs shall be installed along Proposed Project roadways at a maximum of 500 feet apart. Vehicle speeds may be required to be further reduced in the event of reduced visibility conditions including, but not limited to, fog, rain, snow, mud, or twilight or dark conditions.
- j) Construction vehicles and equipment are restricted to existing roads and designated haul routes. No off-road parking or vehicle or equipment staging is allowed in areas not previously delineated.
- k) Motorized equipment will be kept clean and in good working condition and will not be left idling while not in use for more than 5 minutes. All fueling and maintenance of vehicles or other equipment shall occur on established staging areas and at least 50 feet away from any on-site water feature.
- l) Absorbent materials will be available on-site. Any accidental leaks or spills will be immediately cleaned up, and the equipment will not be able to return to the Proposed Project area until it has been repaired sufficiently to prevent further leaks or spills.
- m) Erosion control measures shall be the appropriate type for the site conditions and will not harm or entrap wildlife.

Mitigation Measure Bio-2: Avoid and minimize impacts to special-status plants

To minimize the potential impacts to special-status plants that may occur within the Proposed Project area, the following measures will be implemented:

- a) A qualified biologist will conduct surveys prior to the start of construction for any special-status plant species that are potentially present within the Proposed Project area. If any are identified, they will be flagged and avoided, if feasible.
- b) If special-status plants are identified within the Proposed Project area and cannot be avoided, DWR will coordinate with USFWS/CDFW, and an attempt will be made to transplant the individuals or collect and disperse seeds.

Mitigation Measure Bio-3: Avoid and minimize impacts to nesting birds

To minimize and avoid the potential impacts to nesting birds (non-raptor) protected by the MBTA and Fish and Game Code Section 3503 that may occur within the Proposed Project area, the following general measures will be implemented:

- a) If construction activities occur between March 15 to August 31, a preconstruction survey for actively nesting birds will be conducted by a qualified biologist a maximum of 72 hours prior to the onset of Proposed Project activities. The qualified biologist(s) must, at a minimum, have experience conducting surveys to identify the specific species and associated habitat that could occur on site.
- b) If any active nests are identified within or adjacent to the Proposed Project area, a buffer will be put in place to ensure that no take (as defined by MBTA), and no take, possession, or needless destruction (as prohibited under the Fish and Game Code) occurs. This buffer will be up to 50 feet, but can be smaller, dependent upon on-site conditions and at the discretion of the qualified biologist.

Mitigation Measure Bio-4: Avoid and minimize impacts to Western Burrowing Owl

- a) Prior to any ground disturbance related to Proposed Project activities, a qualified biologist will conduct a preconstruction survey in areas identified in the planning surveys as having potential Western Burrowing Owl habitat. The surveys will establish the presence or absence of Western Burrowing Owl, and/or habitat features, and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 2012). A qualified biologist will survey the Proposed Project area and a 250-foot radius from the perimeter of the Proposed Project site to identify burrows and owls. Surveys should take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or Burrowing Owls will be identified and mapped. Surveys will take place no more than 14 days prior to construction. During the breeding season (February 1–August 31), surveys will document whether Burrowing Owls are nesting within or directly adjacent to the Proposed Project area. During the nonbreeding season (September 1–January 31), surveys will document whether Burrowing Owls are using habitat in or directly adjacent to any Proposed Project area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.
- b) If Burrowing Owls are found during the breeding season (February 1 – August 31), all nest sites that could be disturbed by Proposed Project construction during the remainder of the breeding season, or while the nest is occupied by adults or young, will be avoided. Avoidance will include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation, or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 – January 31), the Proposed Project proponent should avoid the owls and the burrows they are using, to the greatest extent feasible.
- c) During the breeding season, buffer zones of at least 250 feet in which no

construction activities can occur, will be established around each occupied burrow (nest site). Buffer zones of 160 feet will be established around each burrow being used during the nonbreeding season. The buffers will be delineated by highly visible, temporary construction fencing.

- d) If occupied burrows for Burrowing Owls cannot be avoided, passive relocation will be implemented, following guidance and approval from CDFW. Owls should be excluded from burrows in the immediate impact zone and within a 250-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The Proposed Project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (CDFW 1995).

Mitigation Measure Bio-5: Avoid and minimize impacts to raptors

- a) If construction activities occur between February 1 and August 31, a preconstruction survey for actively nesting raptors will be conducted within the Proposed Project site and 500-foot buffer surrounding the Proposed Project site by a qualified biologist, a maximum of 72 hours prior to the onset of project activities. The qualified biologist(s) must, at a minimum, have experience conducting surveys to identify the specific species and associated habitat that could occur on site.
- b) If any active raptor nests are identified within or adjacent to the Proposed Project site during the preconstruction survey or during work activities, a buffer will be put in place to avoid disturbance to birds as a result of work activities. This buffer will be up to 250 feet, but can be smaller, dependent on-site conditions, individual bird behavior, and at the discretion of the qualified biologist.
- c) Actively nesting raptors will be monitored by a qualified biologist during construction activities for signs of distress or disturbance as a result of project activities. Should the birds show signs of distress, work will cease at that location until the birds have resumed normal behavior and it is determined by the on-site biologist that work can be resumed.

Mitigation Measure Bio-6: Avoid and minimize impacts to Bald Eagle

- a) If construction activities occur between February 1 and August 31, a USFWS/CDFW- approved biologist will conduct a preconstruction survey two weeks prior to construction activities in areas of suitable habitat.

- b) A brief technical memorandum shall be completed and kept on file with DWR, and reported to CDFW, if Bald Eagle(s) are observed foraging. If an active eagle nest is located within 330 feet, the USFWS and CDFW will be consulted.

Mitigation Measure Bio-7: Avoid and minimize impacts to Special-Status Bats

To minimize and avoid the potential impacts to special-status bats that may occur within the Proposed Project area, the following general measures will be implemented:

- a) Preconstruction bat surveys and an evaluation of roosting habitat suitability for bats will be conducted by a qualified biologist familiar with the species that could potentially occur within the Proposed Project area. The qualified biologist should, at a minimum, have experience conducting roosting bat surveys and be able to identify the presence of guano and urine stains.
- b) Any identified roosts of special-status bats will be avoided, and a buffer of up to 100 feet will be established based on site conditions and at the discretion of the qualified biologist, to ensure that the roosting bats are not disturbed. If a maternity colony is identified, additional measures may be required, including a larger buffer, to ensure no disturbance. Such additional measures will be determined and conducted by a qualified biologist.

Mitigation Measure Cul-1: Adherence to Secretary of the Interior's Standards for the Treatment of Historic Properties

DWR shall utilize the Secretary of the Interior's Standards for the Treatment of Historic Properties to the maximum extent possible to ensure the historical significance of resources is not impaired. During project implementation, application of the standards shall be overseen by an individual meeting the Secretary of the Interior's Professional Qualifications for Architectural History or History.

Mitigation Measure Cul-2: Worker Awareness and Response for Undiscovered Historical Resources, Archaeological Resources, and Tribal Cultural Resources

- a) Prior to the start of construction, DWR shall provide a worker environmental awareness training to the construction contractor and DWR inspectors regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying DWR archaeologists.
- b) An Archaeological and/or Tribal Monitor may be present or on-call during construction activities and will have the authority to request that work activities halt if concern over archaeological or Tribal resources becomes apparent.

- c) If any evidence of prehistoric, historic, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, etc.) is observed, all work within 50 feet of the find shall cease immediately. An archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeology shall be consulted to assess the significance of the cultural find and recommend appropriate measure for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery. If the resource may be of Native American origin, DWR shall consult with the culturally affiliated Tribes to whom the resource could have importance. For tribal cultural resources, the identification and implementation of avoidance or minimization measures would be conducted in consultation with the culturally affiliated Tribes.

Mitigation Measure Cul-3: Avoidance of Potential Impacts to Undiscovered Burials

If human remains are discovered during any project activities, all ground disturbing activities within 100 feet of the remains shall be halted immediately and a qualified archaeologist shall inspect the location. DWR shall notify the Butte County coroner and the NAHC immediately, as required by Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If remains are determined to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. DWR shall consult with the Most Likely Descendant (MLD), if any, identified by the NAHC. Following the coroner's and NAHC's findings, DWR and the MLD(s) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Leah McNearney

5/28/2020

Leah McNearney
Environmental Program Manager I
California Department of Water Resources
Division of Environmental Services

Date

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

The California Department of Water Resources (DWR) is proposing to construct the Lake Oroville Permanent Lakeside Access Road Project (Proposed Project) to mitigate security risks for public access to the Oroville Dam Spillway Boat Ramp and Day Use Area at Lake Oroville, and allow for continued maintenance to the Oroville Dam Spillway headworks. This document represents DWR's evaluation of the potential environmental impacts of the Proposed Project under the California Environmental Quality Act (CEQA) and is intended to satisfy the responsibilities of the lead agency under CEQA for a Mitigated Negative Declaration.

1.1 Background

To aid in maintenance activities for DWR's Lake Oroville facilities, including the Flood Control Outlet (FCO) Spillway, Emergency Spillway, and Oroville Dam Spillway Boat Ramp, DWR utilizes a pre-existing dirt and gravel maintenance road, the Lakeside Access Road. The road is located within the lakebed of Lake Oroville, and previously connected the Dam Crest Road parking area to the upper Spillway Boat Ramp parking area, crossing over the FCO Spillway inlet. This maintenance road was only intended for light vehicular use and was not suitable for use during major construction activities.

During the 2017 Oroville Emergency Response and Recovery (OER) Project, repairs to the FCO Spillway required mobilization of large numbers of heavy equipment and cranes in the area immediately surrounding the FCO Spillway radial gates and bridge crossing over the radial gates (Spillway Bridge). Given the heavy traffic restrictions this caused in the area, it was necessary to re-route vehicular traffic around the Spillway Bridge area, particularly traffic going to the temporary OER Project facilities located at the upper Spillway Boat Ramp parking area.

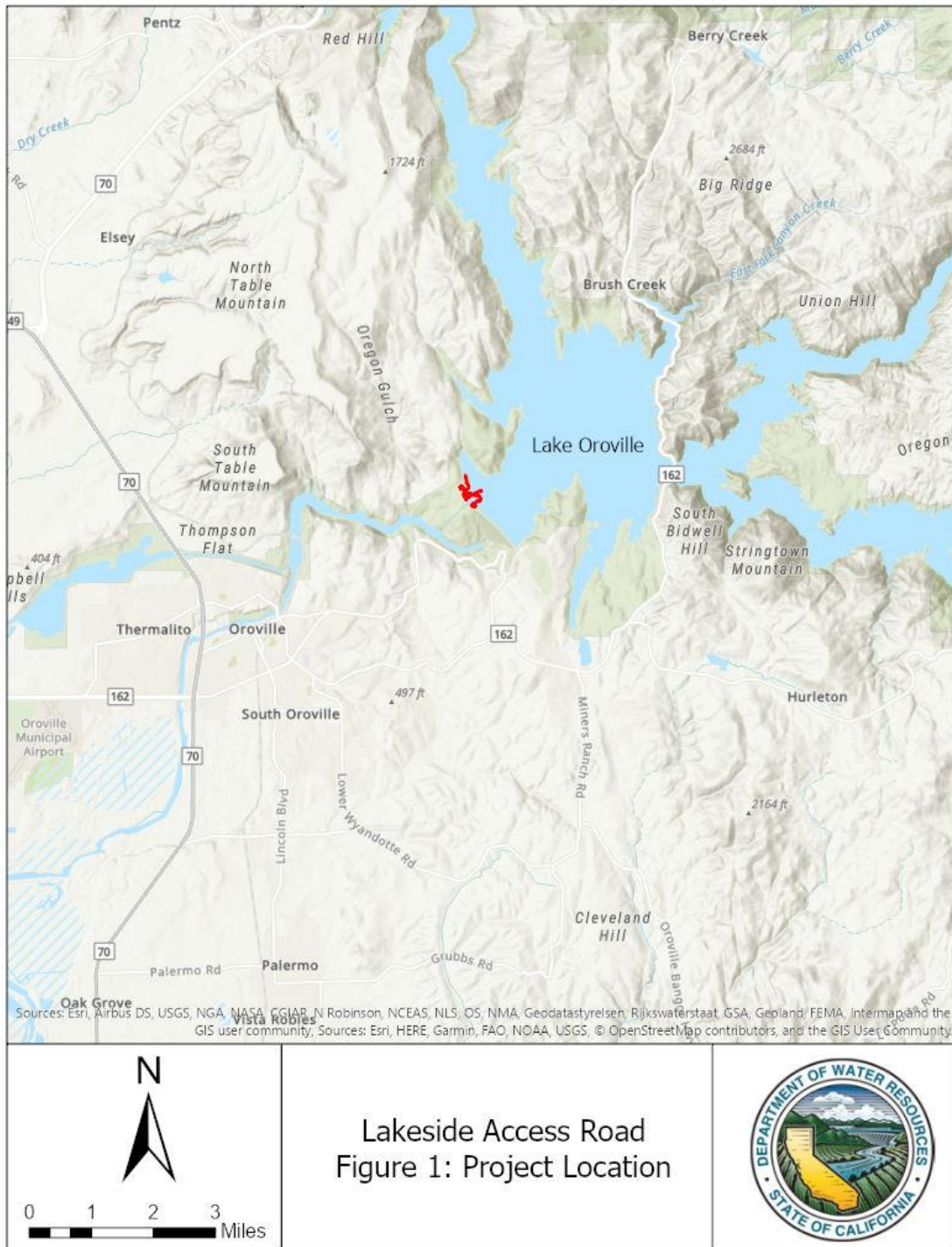
Beginning in June 2017, temporary improvements began on the Lakeside Access Road to support a higher level of use of heavy machinery during OER construction activities to re-route heavy vehicular traffic around the Spillway Bridge. These temporary road improvements included the addition of dirt and aggregate base along the existing maintenance road alignment. All fill material associated with the temporary road improvement was removed as of January 2020, and the Lakeside Access Road was returned to pre-project conditions and contours.

1.1.1 Location

The Proposed Project is located in Butte County, California, approximately four miles northeast of the city of Oroville, 39.545136°N latitude and -121.493672°W longitude, Section 35, Township 20 North, Range 4 East in the Oroville Dam United States

Geological Survey (USGS) 7.5' Quadrangle. The Proposed Project is located in the lakebed of Lake Oroville within the unvegetated reservoir fluctuation zone, which ranges from 640 feet to 900 feet elevation (Figure 1). The construction footprint ranges between approximately 700 feet to 925 feet elevation. The Lakeside Access Road connects the Dam Crest Road to the upper Spillway Boat Ramp parking area.

Figure 1. Proposed Project Location.



1.1.2 Purpose

DWR has historically maintained a gravel access road to the Oroville Dam Spillway Headworks Structure for access inside the Spillway for maintenance. Inspection and monitoring requirements for the Spillway are significantly more intensive since the Oroville Spillway emergency in 2017 and the Proposed Project will allow better access for personnel and equipment.

DWR also maintains public access to the Spillway Boat Ramp to allow for recreational use of Lake Oroville. The Spillway Bridge provides motor vehicle access to the North Fork trail parking area and Spillway Boat Ramp Day Use Area. Due to increased security concerns, two security kiosks were installed to screen the public for access across the Spillway Bridge. DWR funds California Highway Patrol (CHP) law enforcement staff for these kiosks.

To reduce security concerns with the public accessing the Spillway Bridge, DWR proposes a secondary public access route via the Lakeside Access Road (Photo 1). Public access via the Lakeside Access Road would avoid public use of the Spillway Bridge and security kiosks. This avoidance would not only improve security and public safety at the facility, it would also provide an economic savings to DWR and improved recreational user experience by not needing law enforcement screening for approximately six months of the year when the access road would not be inundated with water from Lake Oroville. The Proposed Project would allow for safe and secure public access to the Spillway Boat Ramp while providing a durable access point for maintenance and inspections of the Oroville Dam Spillway.

Additionally, the existing upper Spillway Boat Ramp Parking Area drainage system drains stormwater runoff from the parking area into Lake Oroville, and has erosion damage that is in need of repairs (Photos 2 and 3). A culvert installed within the lake embankment drains water from the parking area, down an outfall channel, to a v-ditch that ultimately drains water into the lake. The outfall channel is eroding due to water runoff and needs repairs to stop further erosion. DWR proposes to repair the eroded area and secure this portion of the Lake Oroville embankment as part of the Proposed Project.



Photo 1. Existing lakeside road (see yellow arrow), taken from just north of the road, looking south. The lake is on the left, the Spillway is on the right. January 2020.



Photo 2. Boat Ramp parking area channel erosion (see yellow arrow), taken from the east of the road, looking west. Photo taken from the boat ramp, looking uphill. January 2020.



Photo 3. Boat Ramp parking area channel erosion, looking downhill towards the Boat Ramp. January 2019.

1.1.3 Regulatory requirements, permits, and approvals

DWR has the responsibility to ensure that all requirements of CEQA and other applicable regulations are met. Other permitting requirements and approvals for the Proposed Project include:

- US Army Corps of Engineers (USACE), Clean Water Act, Section 404 – Individual Permit, Letter of Permission (LOP)
- Central Valley Regional Water Quality Control Board (CVRWQCB), Clean Water Act, Section 401 Water Quality Certification

- CVRWQCB National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities pursuant to Section 402 of the Clean Water Act
- California Department of Fish and Wildlife (CDFW), Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement
- Federal Energy Regulatory Commission (FERC), Proposed Project falls within the boundary of FERC Project P-2100. FERC is the federal lead agency for consultation under Section 106 of the NHPA.
 - State Office of Historic Preservation, National Historic Preservation Act (NHPA), Section 106, Letter of Concurrence FERC

1.2 PROJECT DESCRIPTION

1.2.1 Project overview

The Proposed Project consists of constructing the Lakeside Access Road and completing repairs to an eroded Boat Ramp parking area outfall channel between the upper Spillway Boat Ramp Parking Area and upper Spillway Boat Ramp (Figures 2 through 9).

Once completed, the permanent Lakeside Access Road footprint will encompass approximately 4.49 acres and will extend out from the Dam Crest Parking Lot towards the lake dropping in elevation, cross the inlet channel of the FCO Spillway, and rise back up to connect with the upper Spillway Boat Ramp Parking Area (Figures 2 through 8). The updated alignment is designed to meet California Department of Transportation (Caltrans) design standards for public safety and is configured to have road grades at a maximum of 10% and curves adequate for traffic speeds of 25 miles per hour.

The road will consist of two 12-foot vehicular lanes and two 4-foot pedestrian lanes for a total concrete width of 32 feet; the total improved width including 4-foot aggregate base shoulders on either side will be 40 feet. Along the uphill portion of the roadway, an 8-foot wide 4- to 8-inch crushed rock-lined v-ditch will be installed to collect water drainage and carry flows to the inlet channel. Water would then pass through a series of four culverts crossing under the road where it can then be dispersed back into sheet flow just below the inlet channel (Figure 5).

The Proposed Project includes a slight realignment of the Lakeside Access Road, grading subgrade in both cut and fill zones, placement of an aggregate base road layer,

placement of reinforced concrete on the road surface, placement of rock slope protection along fill slopes of the road alignment (Figures 3 through 8), installation of a roadside v-ditch (Figures 3 through 5), installation of four culverts crossing under the road at the FCO Spillway inlet (Figure 5), and staging and stockpile locations (Figures 3, 6, and 7). To allow for public access along the roadway, several additional features will be installed to maintain control of access and safety, including gates at both ends of the roadway to prevent public use during high lake levels (Figures 3 and 7), a physical

Figure 2. Project overview map showing entire Proposed Project footprint.

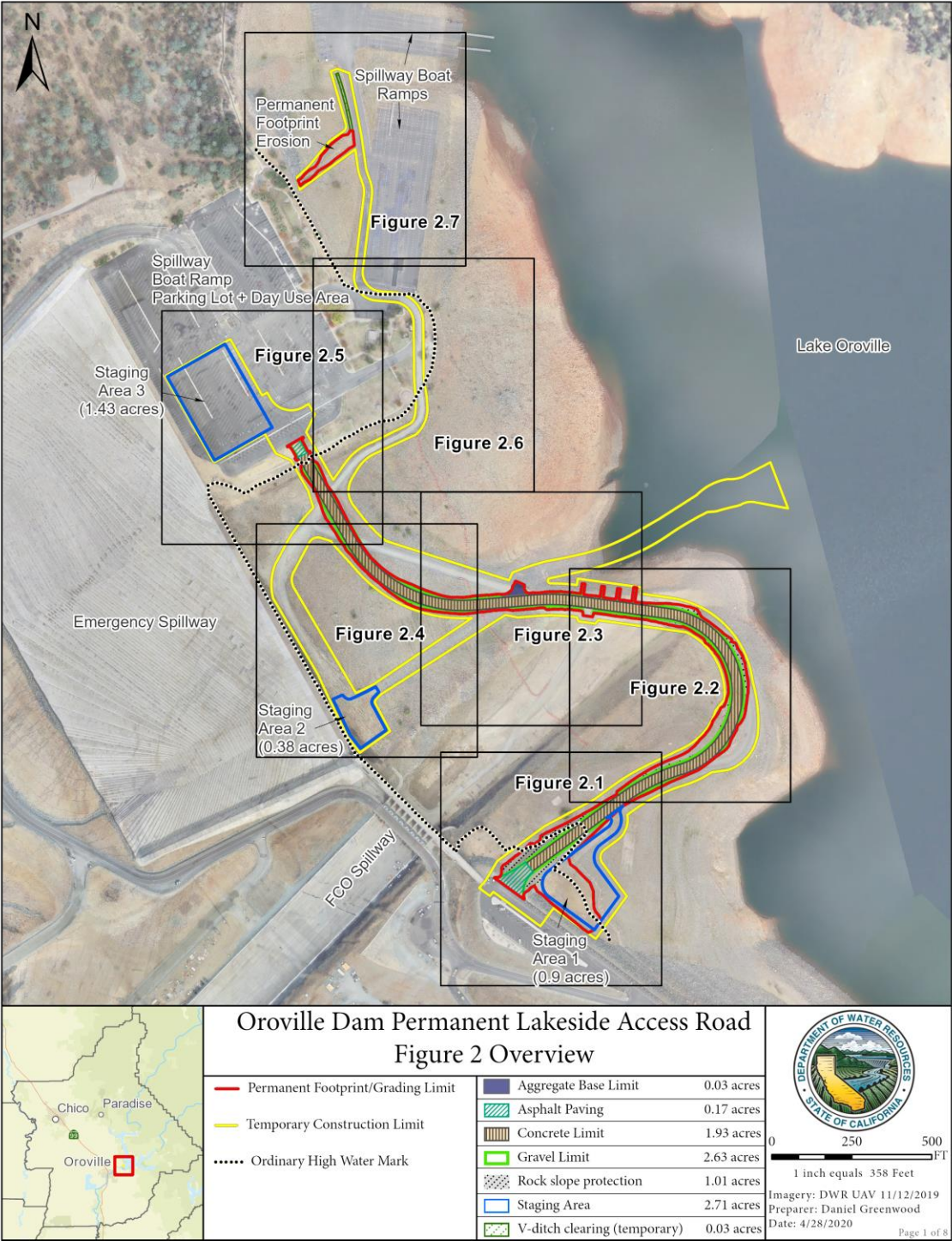


Figure 3. A close up of Sub-figure 2.1.

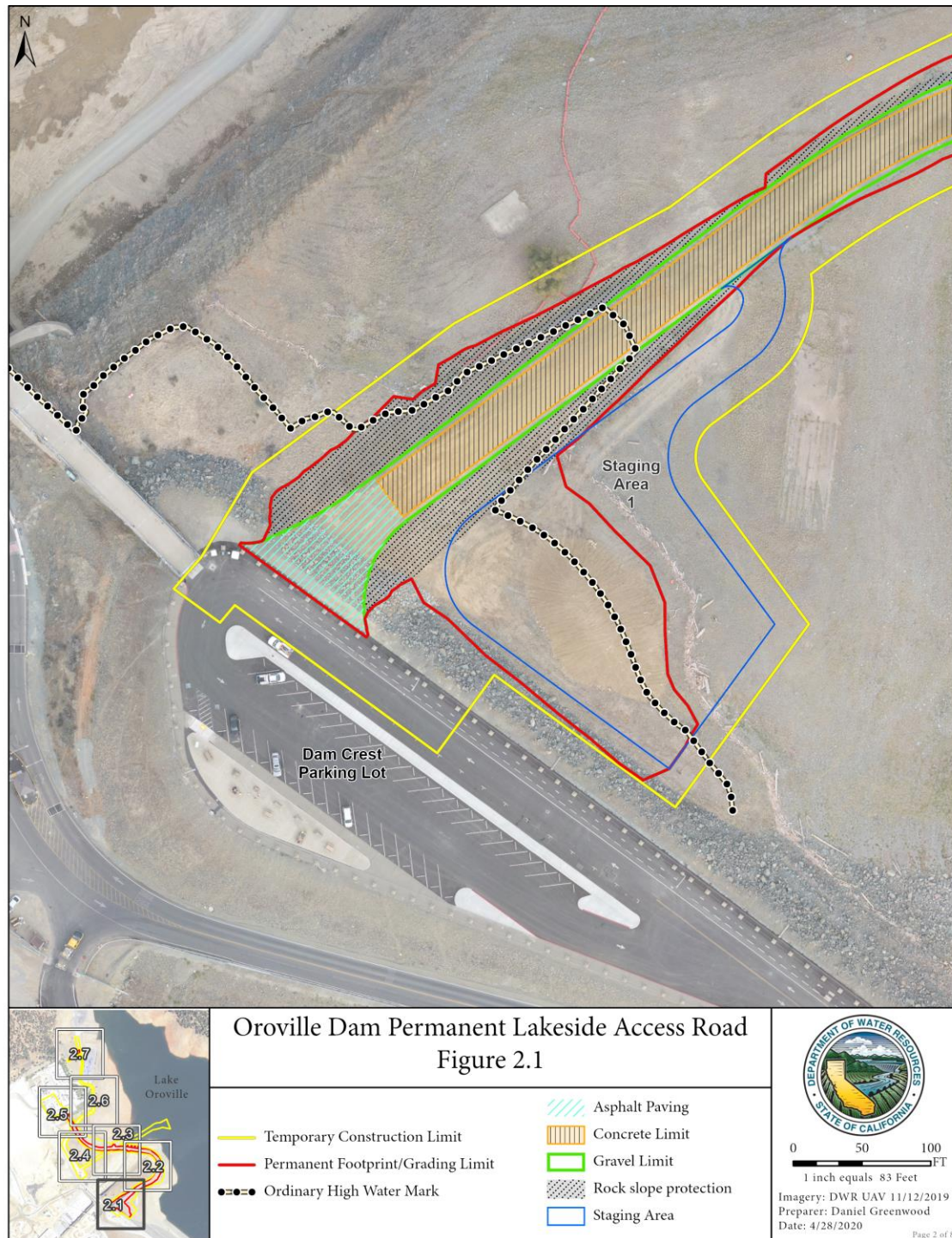


Figure 4. A close up of Sub-figure 2.2.

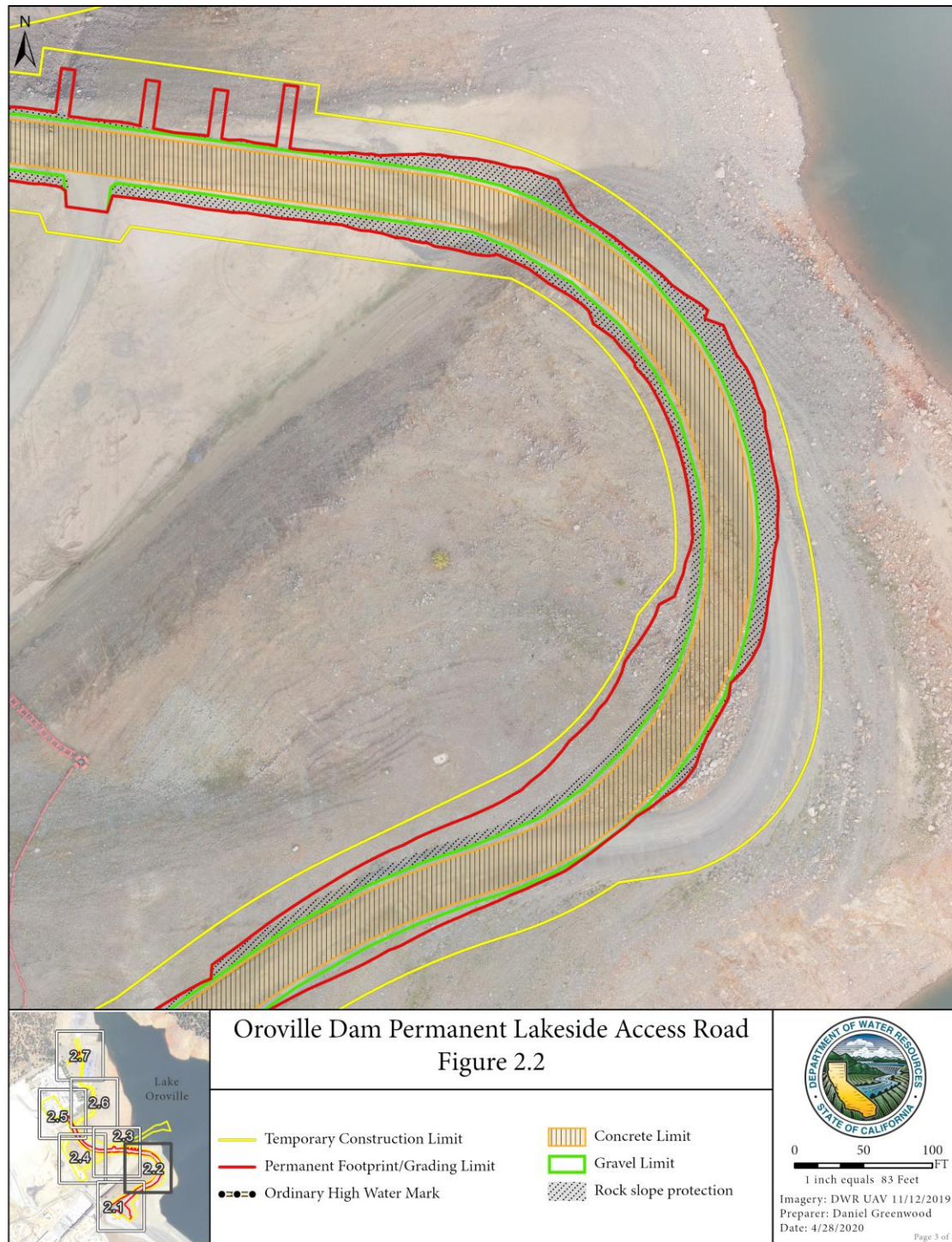


Figure 5. A close up of Sub-figure 2.3.

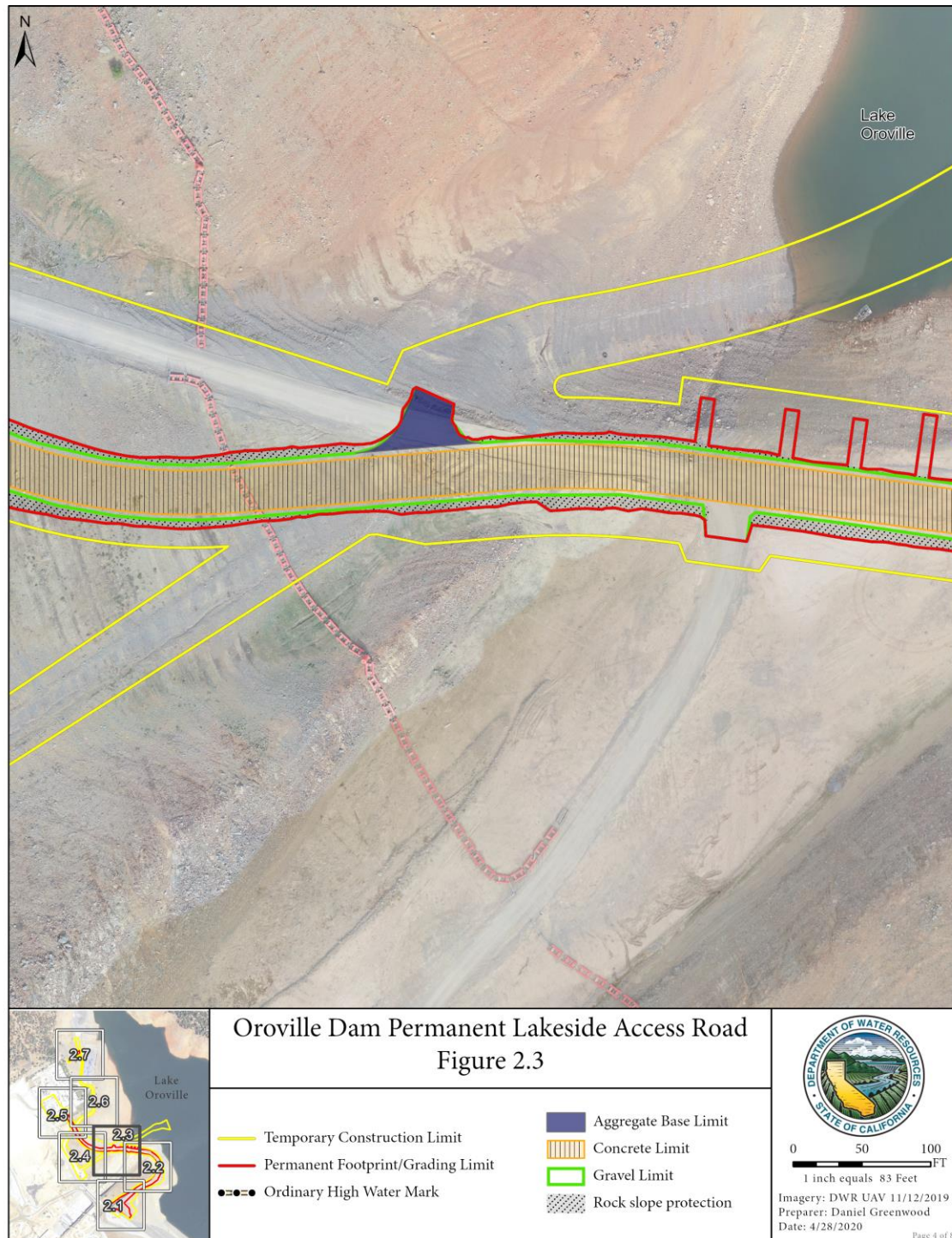


Figure 6. A close up of Sub-figure 2.4.

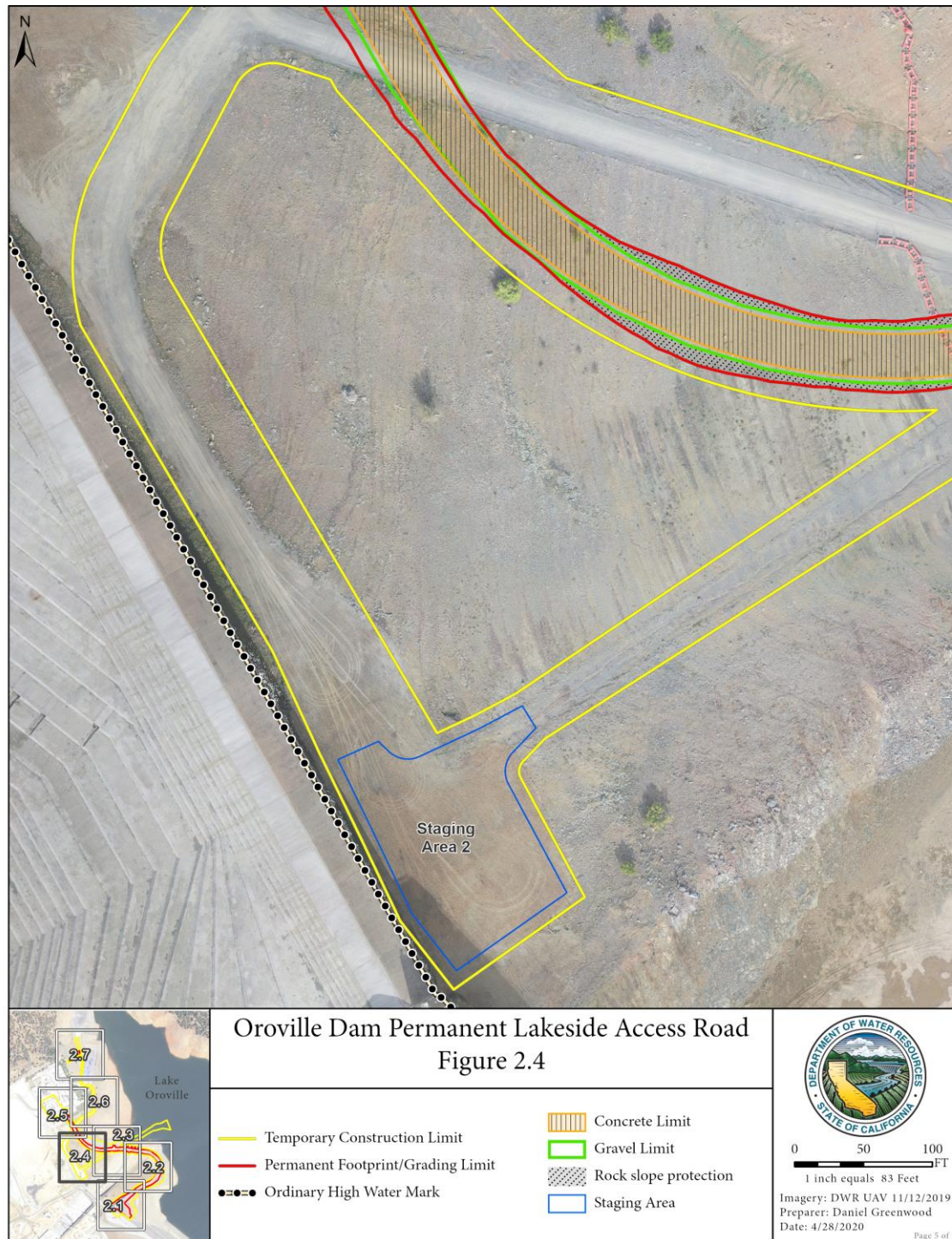


Figure 7. A close up of Sub-figure 2.5.

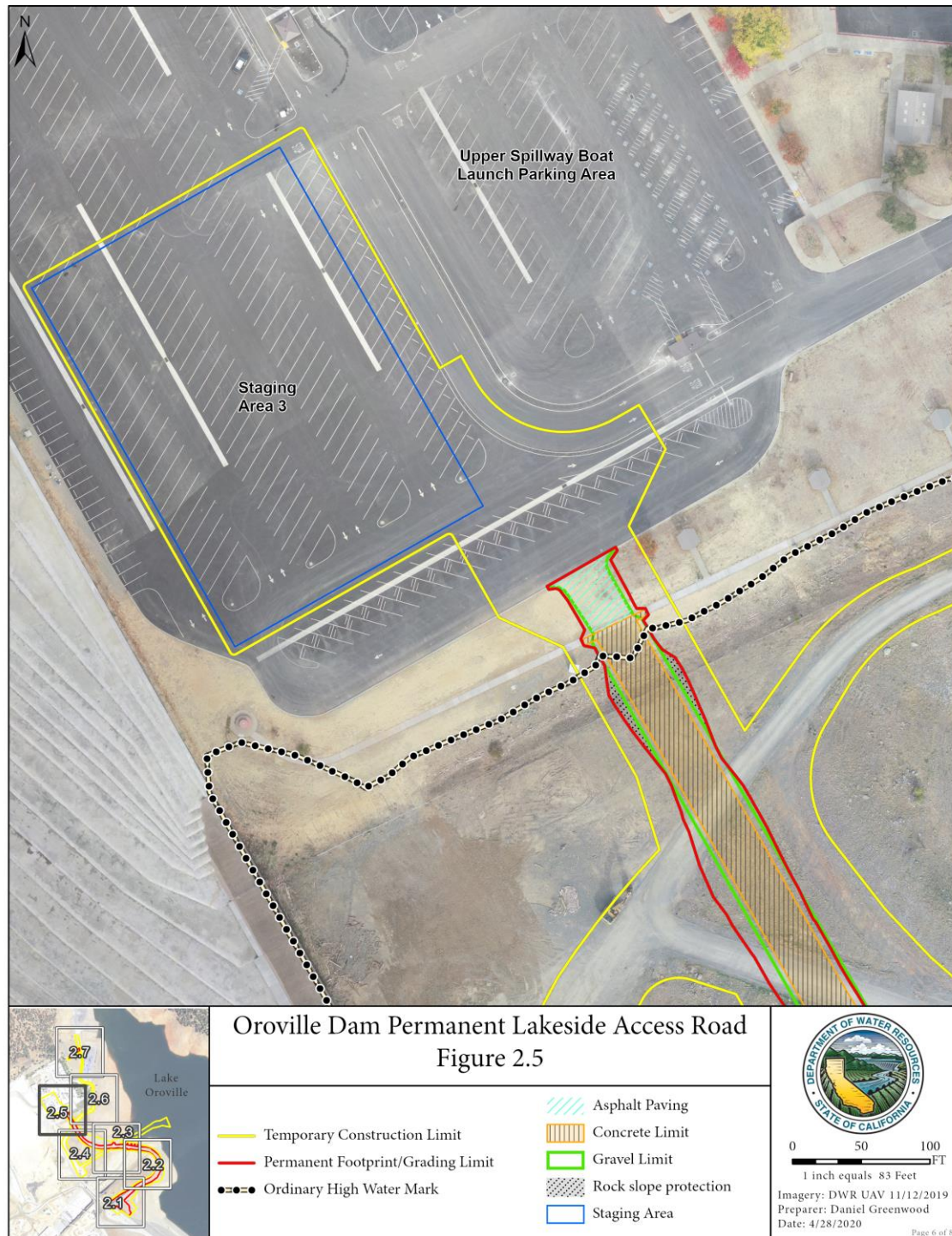


Figure 8. A close up of Sub-figure 2.6.

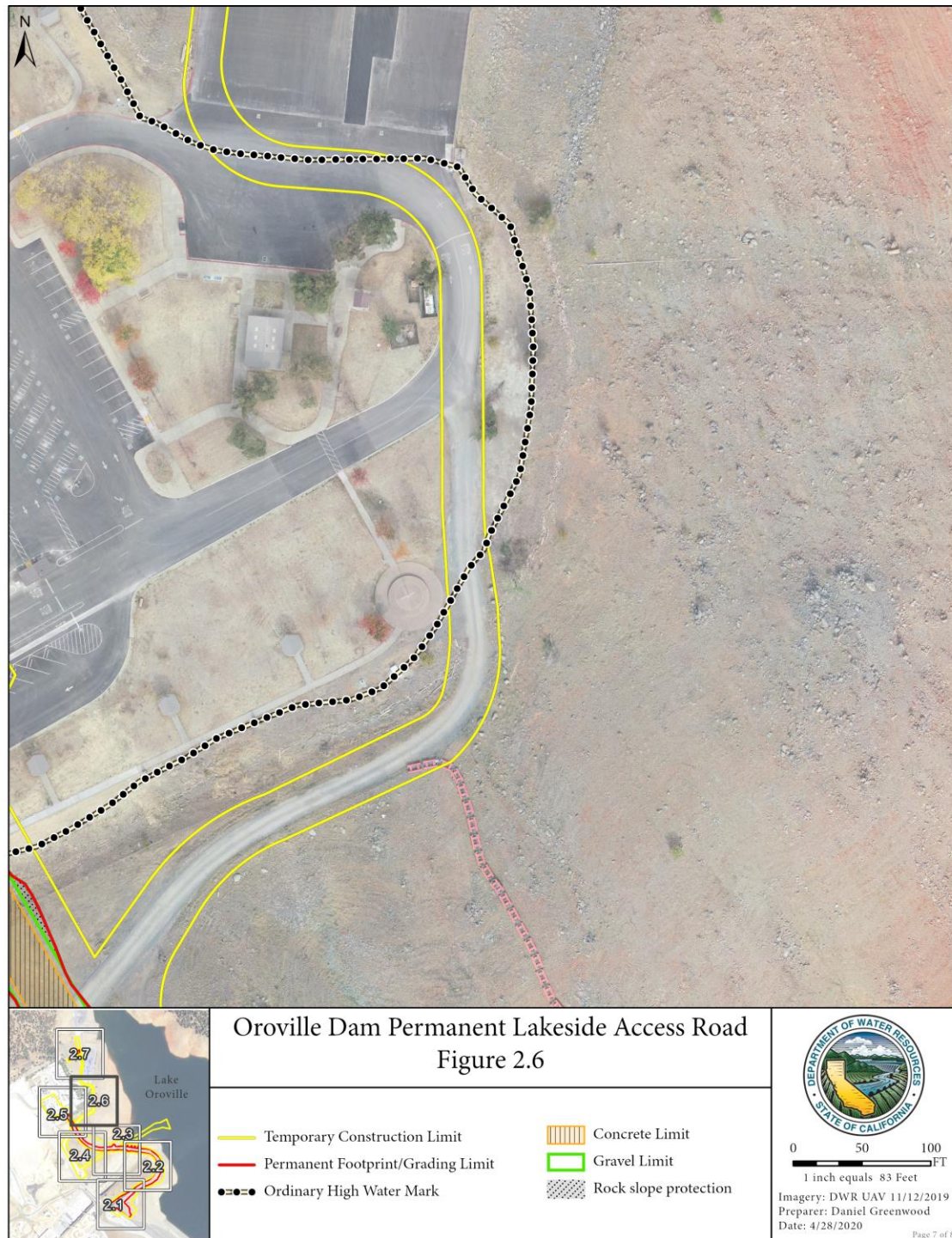
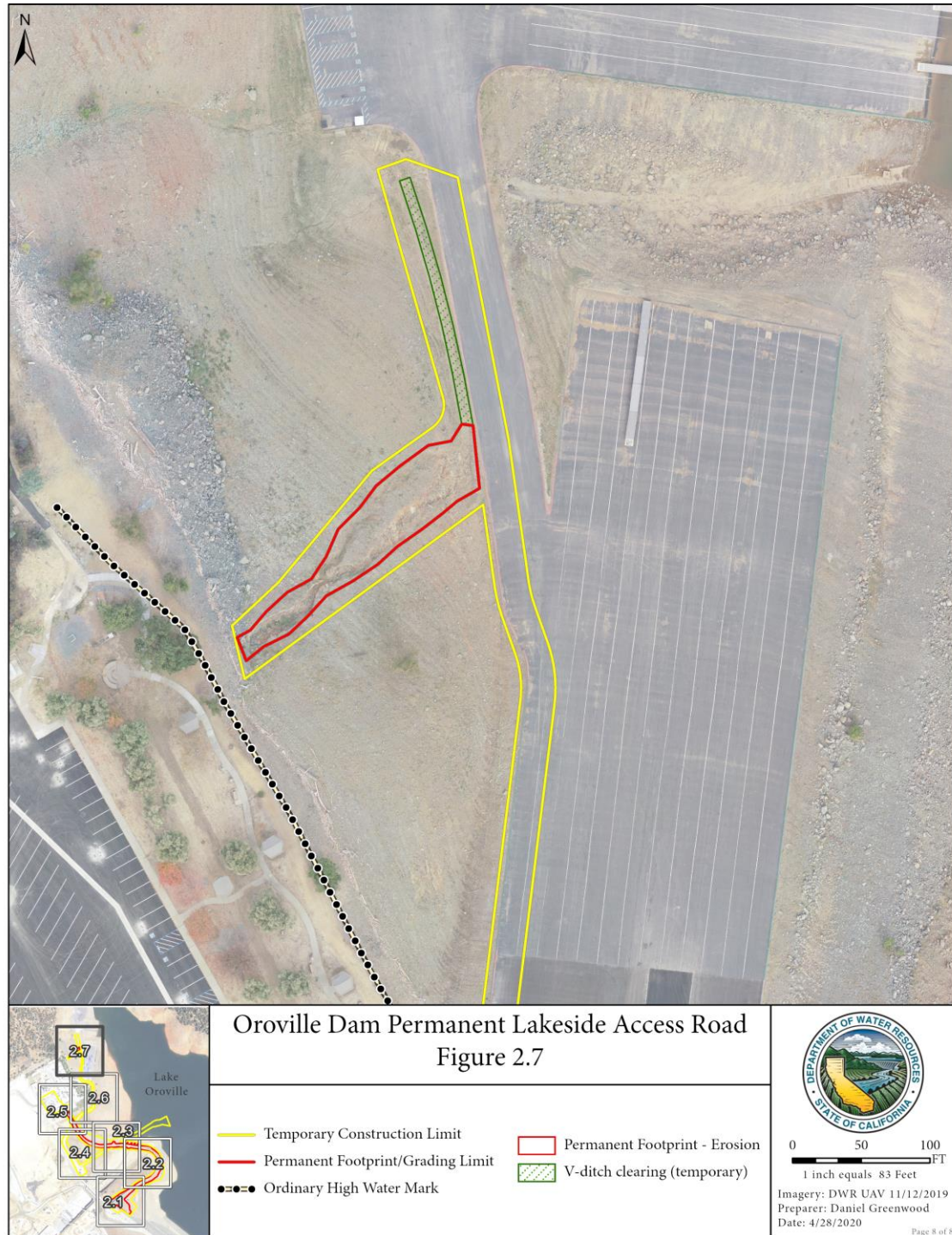


Figure 9. A close-up of Sub-figure 2.7.



removable barrier (k-rail) to prevent public access to the FCO Spillway inlet (Figure 5), guardrails (Figures 4 and 5), roadway signage, striping, and miscellaneous pavement markings. All temporarily disturbed upland areas above the ordinary high-water mark (OHWM) will be hydroseeded and stabilized for erosion control.

Additionally, an eroded area within the Lake Oroville embankment between the Spillway Boat Ramp Parking Area and Spillway Boat Ramp will be repaired (Figure 9). The erosion repair location is below a culvert outlet that drains water runoff from the upper Boat Ramp Parking Area into Lake Oroville.

1.2.2 Project Activities

Temporary and permanent impacts of Proposed Project activities are summarized in Tables 1 and 2 below.

Table 1. Summary of Proposed Temporary Impacts

| Feature | Temporary Impact (Acres) | Description |
|------------------------------------|---------------------------------|--|
| Total Temporary Construction Limit | 15.7 | The temporary construction limit encompasses all project activities, and includes the permanent road alignment, staging areas, and access. |
| Staging Area 1 | 0.90 | All staging areas are encompassed within the Temporary Construction Limit. Temporary improvements include cut and fill to level staging areas. These areas will be returned to original grade and contour upon project completion. |
| Staging Area 2 | 0.38 | |
| Staging Area 3 | 1.43 | |

Table 2. Summary of Proposed Project Features

| Feature | Permanent Impact (Acres) | Description |
|---|---------------------------------|---|
| Total Permanent Construction Footprint - Road | 4.49 | Encompasses all permanent impacts associated with the Lakeside Access Road, listed below. |
| Excavation and Grading Limit | 4.49 | Includes all rock and dirt excavation of the permanent Lakeside Access Road, and all backfill to bring the road alignment to specified grade. |

| Feature | Permanent Impact (Acres) | Description |
|--|---------------------------------|--|
| Class II Aggregate Base Road Layer | 2.63 | Class II aggregate base will be placed along the alignment to prepare the road surface for concrete and asphalt paving. Aggregate base will form a 4-foot shoulder on either side of paved road. |
| Road Surface - Reinforced Concrete | 1.93 | Road alignment will be paved with concrete reinforced with steel. The road will consist of two 12-foot vehicular lanes and two 4-foot pedestrian lanes. |
| Asphalt Paving at Road Connections | 0.17 | Asphalt road connections will be paved where the Lakeside Access Road connects to the Dam Crest Road and upper Boat Ramp Parking Area. |
| Rock Slope Protection/Riprap | 1.01 | Rock slope protection (riprap) will be placed on the fill slopes along specific areas of the road alignment to prevent erosion. |
| V-Ditch | 0.03 | A v-ditch will be installed along a portion of the road alignment to drain water runoff to the FCO Spillway inlet. |
| Culverts | 0.007 | Four 12-inch culverts will be installed beneath the road at the FCO Spillway inlet to allow for water flow across the road. |
| Boat Ramp Parking Area Outfall Channel Drainage Repair | 0.2 | An eroded outfall channel between the upper Boat Ramp Parking area and upper Boat Ramp will be repaired and lined with riprap to prevent further erosion. |
| Hydroseeding | 1.45 | All disturbed upland areas will be hydroseeded to prevent erosion. |
| Safety Features | N/A | Additional features are required to maintain control of access and safety, including gates at both ends of the roadway to prevent use during high lake levels, a physical removable barrier (k-rail) to prevent public access to the FCO Spillway inlet, concrete curbs, guardrails, roadway signage, striping, and miscellaneous pavement markings. |

1.2.2.1 Road Realignment, Excavation, and Grading

The total temporary construction limit of the project is approximately 15.7 acres (Table 1). Once constructed, the proposed permanent road alignment will span approximately 2,770 linear feet (0.52 miles) and encompass approximately 4.49 acres (Figure 2, Table 2).

To prepare the proposed road alignment, the current road alignment will first be cleared and grubbed. The top two to four inches of material within the updated road footprint will be removed using a dozer. Removed material will be used as fill for minor grading of the three designated staging areas or temporarily stockpiled within the combined 2.71 acres of staging area (Figures 3, 6, and 7, Figure 1).

The road alignment will then be excavated/graded to the specified lines and grades (Figures 3 through 8) using excavators, dozers, and/or motor graders. An estimated 10,000 cubic yards (cu yds) of earthen material will be excavated from the alignment (general excavation).

Some areas along the road alignment consist of rock and may not be able to be brought to the specified grade using excavators, dozers, or motor graders. These areas may be excavated via controlled blasting or hydraulic breaker. If controlled blasting is needed, drill-blast excavation of rock would be controlled to minimize effects on structures and surrounding rock. Explosive charges would be distributed along the rocky areas in drilled holes to minimize stressing the fracturing of rock behind neat excavation lines. Typical noise levels, measured in decibels (dB), are expected to range between 30 and 50 dB with a maximum level of 135 dB. An estimated 5,000 cu yds of rock may be excavated from the road alignment via controlled blasting or hydraulic breaker. Potential blasting would be minimal, and anticipated duration of this activity including site preparation is one to two weeks.

The material obtained onsite either by controlled blasting/rock excavation or general excavation will require sorting or separating into required and specified sizes and will be used as backfill along the road alignment. These specific material sizes include:

- 2-foot max size to be used for “common” backfill;
- < 6-inch size to be used for “select” backfill;
- 4- to 8-inch size to be used for riprap/rock slope protection of v-ditches; and
- 6- to 18-inch size to be used for rock slope protection of roadway fill slopes.

Material may be processed into these different sizes via a mobile rock screener or static rock screen prior to moisture conditioning for placement and compaction in layers at the designated locations. An estimated 8,500 cu yds of common and select backfill will be used to bring the road alignment to the specified grade. Approximately 4,000 cu yds of

material excavated from the Proposed Project site not used as backfill will be exported to an offsite facility.

1.2.2.2 Placement of Class II Aggregate Base Road Layer

After the road alignment is graded, approximately 5,000 cu yds of Class II aggregate base layer will be placed over the entire length of the road alignment, spanning approximately 2,770 linear feet (0.52 mile), with a width of 40 feet. This will create a 4-foot aggregate base shoulder on either side of the paved road. Aggregate base will extend out in two locations to create a connection with two existing dirt maintenance roads within and adjacent to the FCO Spillway inlet channel (Figure 5). The footprint of the aggregate base layer will encompass approximately 2.63 acres (Table 2).

Class II aggregate base will be imported from a local supplier and will be delivered to the site via haul trucks, spread to design grade using a motor grader, and compacted using a roller compactor.

1.2.2.3 Reinforced Concrete on Road Surface

The road surface will be paved with approximately 2,000 cu yds of concrete reinforced with approximately 110,000 pounds (lbs) of reinforcing steel over the entire length of the road. The reinforced concrete will span approximately 2,640 linear feet (0.5 mile) with a width of 32 feet (Figures 3 through 8). The paved road will consist of two 12-foot vehicular lanes and two 4-foot pedestrian lanes. At the FCO Spillway inlet (Figures 4 and 5), the paved road surface will widen, and a concrete curb approximately 500 feet in length and 6 inches tall will be installed to accommodate a removable physical barrier for security purposes. A 6-inch curb spanning approximately 100 feet will also be installed on either side of the road where it connects to the upper Boat Ramp Parking Area (Figure 7).

To pave the Lakeside Access Road, concrete formwork will be constructed within the road alignment. Reinforcing steel will be set within this footprint, and concrete slabs will be placed. Concrete will be obtained from a local supplier and delivered via concrete mixing trucks. Concrete will be placed within the concrete framework using a concrete pump truck or mixer tailgate chute.

1.2.2.4 Asphalt Paving at Road Connections

Where the Lakeside Access Road meets the Dam Crest Road (Figure 3) and upper Boat Ramp Parking Area (Figure 7), approximately 150 tons of hot mix asphalt (HMA) will be used above the OHWM to connect the road and parking area to the Lakeside Access Road. The HMA will encompass approximately 0.17 acres (Table 2).

The HMA will be delivered onsite via an asphalt delivery truck. An asphalt paver, vibratory asphalt compactor, and vibratory plate compactor will be used to pave the road and parking lot connections.

1.2.2.5 Rock Slope Protection (Riprap)

Rock slope protection (riprap) will be placed on the fill slopes along specific areas of the road alignment to prevent erosion (Figures 3 through 8). The riprap will consist of the 6- to 18-inch crushed rock and will encompass approximately 1.01 acres (Table 2).

Riprap may be imported from a local supplier or obtained from on-site rock excavations after processing. Approximately 2,100 cu yds of 6- to 18-inch riprap will be placed along the road alignment in specified areas over geotextile fabric. Riprap will be placed using an excavator.

1.2.2.6 V-Ditch and Culvert Installation

The v-ditch will be placed on the uphill side of the road for an approximate 830-foot portion of the road from the culverts at the inlet channel to the Oroville Dam parking lot (Figures 3 through 5). The v-ditch will encompass approximately 0.15 acres (Table 2) and will be comprised of approximately 400 cu yds of 4- to 8-inch crushed rock. It will collect water drainage and carry flows to the FCO Spillway inlet channel and through a series of four culverts crossing under the road at the inlet (Figures 4 and 5).

The rock-lined v-ditch adjacent to the concrete road will be constructed using an excavator. Rock may be imported from a local supplier or obtained from onsite rock excavations after processing.

Four 12-inch concrete pipe culverts will be installed beneath the aggregate base and paved road surface within the FCO spillway inlet (Figures 4 and 5). To install the culverts, the aggregate base will first be placed and compacted as bedding for the pipe. The culverts will then be placed on top of the compacted base using an excavator and covered with the aggregate base layer or concrete depending on field conditions during construction.

1.2.2.7 Staging and Stockpiling

Designated temporary staging of heavy equipment, vehicle and conex storage, and stockpile areas have been identified and are shown in Figures 3, 6 and 7, and are described as follows:

- Staging Area 1 is located approximately 200 feet northeast of the Dam Crest Parking Lot near the beginning of the new access road (Figure 3). The area

measures approximately 215 feet by 300 feet, approximately 0.90 acre (Table 1). Approximately 0.59 acres of this staging area is below the lake's OHWM.

- Staging Area 2 is located upstream of the Emergency Spillway monolith approximately 300 feet northwest of the FCO (Figure 6). The area measures approximately 140 feet by 160 feet, approximately 0.38 acre (Table 1). The entirety of this staging area is below the lake's OHWM.
- Staging Area 3 is located within the paved limits of the upper Spillway Boat Ramp Parking Area, above the lake's OHWM (Figure 7). The area measures approximately 200 feet by 300 feet, approximately 1.43 acres (Table 1).

Staging Areas 1 and 2 will require minor grading to create a usable level surface. Removed material from the updated road alignment will be used as fill for minor grading of these staging areas. Additionally, removal of some fill material within the staging areas may be necessary to bring to desired grade. Aggregate base will be temporarily placed within the staging areas for all-weather access. Staging areas will be restored to original conditions and contours following completion of work.

1.2.2.8 Additional Safety Features

Swing style gates will be installed at both ends of the roadway to prevent public access during high lake levels. The gates will be located where the Lakeside Access Road connects to the Dam Crest Parking Lot (Figure 3) and the upper Spillway Boat Ramp Parking Area (Figure 7).

For security purposes at the FCO Spillway inlet, the widened concrete road and curb will house a physical removable barrier (k-rail) (Figure 5). The barrier will be removed by maintenance crews when the road is not in service due to high lake levels.

In areas of the road that have steep side slopes, a guardrail will be installed (Figures 4 and 5).

Other safety features to be installed within the Proposed Project footprint include roadway signage, striping, and pavement markings.

1.2.2.9 Upper Boat Ramp Parking Area Drainage - Outfall Channel Repair

The eroded outfall channel between the upper Boat Ramp Parking Area and upper Boat Ramp encompasses approximately 0.2 acres (Figures 8 and 9, Table 2). The area to be repaired extends approximately 220 feet down the Lake Oroville embankment, and is approximately 50 feet wide at the widest point.

The erosion will be repaired by compacting the loose material in place within the erosion footprint using an excavator. A layer of filter fabric will then be placed over the compacted area. Approximately 400 cu yds of 6- to 12-inch riprap will be placed over the fabric to secure the embankment and complete the repair. Rock may be imported from a local supplier or obtained from onsite rock excavations after processing.

Additionally, an existing v-ditch that parallels the access road leading to the lower boat ramp will be cleaned. Cleaning consists of removal of deposited fill material to restore the original geometry of the ditch.

1.2.2.10 Hydroseed and Site Stabilization

Upon completion of construction activities, all temporarily disturbed upland areas above the OHWM will be stabilized and hydroseeded using a native seed mix. Area to be hydroseeded is approximately 1.45 acres (Table 2).

Stabilizer, hydromulch, fertilizer, and the native seed mixture will be sprayed over the disturbed areas using a hydroseeder. Silt fencing and fiber rolls will be installed throughout the hydroseeded areas to provide additional erosion control.

All temporarily disturbed areas within the unvegetated lakebed will be graded to pre-project contours and compacted with methods such as track walking to prevent erosion. A long-term maintenance plan will include inspections and repairs of permanent Best Management Practices (BMPs; see Section 1.2.4).

1.2.2.11 Project Site Access

Access to the Proposed Project site will be accommodated via existing paved public roads, namely Oroville Dam Crest Road off Canyon Road. Access routes are not designed for heavy equipment traffic and will be monitored for any evidence of damage. Upon completion of the Proposed Project, roads will be restored to their pre-project conditions. Temporary traffic control measures will be utilized during periods of hauling and to control public access as required.

1.2.2.12 Dewatering

Work will only occur when the water elevation in the lake is below the elevation of the specific work area within the Proposed Project area, at approximately 800-foot elevation at its lowest point. Although the inlet channel between the radial gates and existing maintenance road is roughly graded to drain towards the lake, it has the potential to hold isolated pools of ponded water. This water will be pumped out prior to start of construction. The pumping method will be determined by the contractor. Water pumped from the inlet will either be used onsite for dust control if it meets the numeric action

level (NAL) for pH (pH 6.5 – 8.5), collected in a tank (Adler, Baker, etc.) to be treated onsite (contractor will obtain necessary permits), or hauled offsite to an appropriate facility.

1.2.2.13 Equipment

Construction equipment utilized for the Proposed Project may include but is not limited to the following:

- Backhoe or excavator
- Dozer
- Motor grader
- Hydraulic crawler drill
- Hydraulic breaker (hoe ram) or other percussion hammer
- Mobile rock screener/processor or static rock screen/separator
- Skid steer or rubber-tire loader
- Vibratory roller compactor
- Vibratory plate compactor (walk-behind)
- Asphalt paver
- Vibratory asphalt compactor
- Asphalt delivery truck
- Haul truck
- Water truck
- Fuel truck
- Telehandler lift
- Concrete pump truck
- Concrete mixer truck
- Hydroseeder
- Conex
- Generator
- Water pump

1.2.3 Construction Schedule

Work is anticipated to take approximately four to five months, between August through December. All work below the ordinary high-water mark will occur when the Lake Oroville water level is below the Proposed Project footprint. Work is anticipated to occur during daylight hours, Monday through Saturday, but may extend into night and Sunday work to allow for acceleration of construction due to the limited work window delineated by the Lake Oroville water level.

1.2.4 Best Management Practices (BMPs)

BMP-1: Air Quality Control Plan – This plan shall document efforts to reduce air pollution and shall include, but not be limited to the following:

- a) Fugitive dust control. Efforts to control fugitive dust include watering, applying chemical suppressants, minimizing areas of disturbance, covering surfaces, or other favorable dust control measures. Measures listed below shall be implemented as reasonable or necessary in an effort to prevent fugitive dust from leaving the work site.
 - a. Ensure equipment is properly maintained.
 - b. Construct graded surfaces as early in the Proposed Project as possible.
 - c. Limit construction vehicle speeds to no greater than 15 mph.
 - d. Cover haul vehicles in a manner to ensure compliance with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
 - e. Install wheel washers, track plates, or other similar methods where vehicles exit the construction site onto paved roads.
 - f. Apply water and other dust palliatives as frequently as necessary to control fugitive dust.
- b) Minimize construction-related vehicle emissions. Emission measures shall include, but are not limited to:
 - a. Compile a complete list of self-propelled off-road diesel vehicles 25 horsepower (hp) or greater equipment to be mobilized to the site, the equipment's California Air Resources Board (CARB) equipment identification number, and CARB tier designation.
 - b. Prohibit trucks and construction vehicles from idling more than 5 minutes when not in use.
 - c. Maintain all construction equipment in proper working condition and perform preventive maintenance. Required maintenance shall include but not be limited to compliance with all manufacturer's recommendations, proper upkeep and replacement of mufflers and filters, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules and service requirements shall be defined and implemented for each piece of construction equipment.
 - d. Reference and acknowledging that Best Available Control Technology (BACT) will be followed, where applicable or feasible, including, but not limited to:
 - a. Install high-pressure injectors.
 - b. Use ultra-low-sulfur diesel fuel in all stationary and mobile equipment.

- c. Substitute electrical equipment for gas or diesel-powered equipment.
 - d. Substitute Clean Natural Gas (CNG)-powered vehicles.
 - e. Substitute gasoline-powered equipment equipped with catalytic converters with electric-powered equipment.
 - f. Reduce construction activities during Stage 2 alerts issued by the local Air Pollution Control District (APCD) where required.
- e. Implement a tire-inflation program on the work 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. Vehicles used for hauling materials off site shall be checked at least weekly for correct tire inflation.
- f. Handling, loading, unloading, or transporting materials to and on the work site using equipment with on-road rated engines, to the extent feasible.
- g. Minimize the amount of construction equipment operating during any given time period. This could include scheduling of construction truck trips to reduce peak emissions, adjusting time periods for the construction workday, and phasing of construction activities.
- h. Limit deliveries of materials and equipment to off-peak traffic congestion hours to the extent feasible. For deliveries to Proposed 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 U.S. Environmental Protection Agency SmartWay certified truck shall be used to the maximum extent feasible.
- i. Develop a project-specific ride-share program to encourage workers to utilize carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.
- j. Ensure that all feasible efforts have been made for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, alternative fuels such as propane or solar, shall be used to power generators, to the extent feasible.
- k. Reduce electricity use in temporary construction offices by using high-efficiency lighting and requiring that heating and cooling units be Energy Star compliant. The Contractor shall develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business when possible.
- l. Use only coatings and solvents on the Proposed Project that are consistent with the local air quality control district or air quality management district rules, California Air Resources Control Board, and all other applicable laws and regulations.

BMP-2: Storm Water Pollution Prevention Plan (SWPPP)

- a) The SWPPP shall be prepared by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP) or QSD.
- b) SWPPP preparation and implementation shall follow the provisions of the California Stormwater Quality Association (CASQA) – 2015 Construction Best Management Practices (BMP) Handbook and SWPPP Preparation Manuals as well as the requirements of Order No. 2009-0009-DWQ, and associated amendments (Order No. 2010-0014-DWQ and order No. 2012-0006-DWQ), or any more recent version of the Construction General Permit (CGP).

BMP-3: Fire Prevention and Control Plan – This plan shall comply with the provisions of the California Fire Code (CFC) Chapter 33, and shall include appropriate preventative measures, emergency procedures to be followed, current emergency telephone numbers, and an area map. At a minimum, the plan shall address the following items, if applicable:

- a) Procedures and policies for preventing fires occurring on site during construction.
- b) Procedures and policies for controlling any worksite fires, access for firefighting, and other related fire prevention and control procedures developed in consultation with fire protection agencies.
- c) Materials susceptible to spontaneous ignition shall be stored in an approved disposal container.
- d) No fires will be allowed at the work site. Smoking will be allowed only in areas designated for smoking, which shall be in enclosed vehicles or in areas cleared of vegetation.
- e) Appropriate fire suppression equipment shall be maintained at the work site, including an all-wheel drive water truck or fire truck with a water tank of at least 3,000-gallon capacity. The truck's water tank shall be maintained full of water and shall not be used as a source of construction water without prior written approval. Fire extinguishers, shovels, and other firefighting equipment shall be inventoried and available at work sites and on construction equipment. Each vehicle on the construction worksite and right of way that is larger than an automobile or pickup truck shall be equipped with a minimum 20-pound (or two 10-pound) fire extinguisher(s) and a minimum of 5 gallons of water in a firefighting apparatus (e.g., bladder bag).
- f) A sealed fire toolbox shall be maintained and accessible in the event of fire. This fire toolbox is required to contain: two backpack pump-type fire extinguishers filled with water, two axes, two McLeod fire tools, and four shovels.
- g) Internal combustion engines are required to be equipped with spark arrestors. Motorized construction equipment shall be located such that the exhausts do not discharge against combustible materials. Equipment shall be fueled while in non-operation. Fuel shall only be stored in approved areas.

- h) One or more chain saws of 3-1/2 or more horsepower with a cutting bar 20 inches in length or longer shall be made available at the site.
- i) Gasoline-powered construction equipment with catalytic converters shall be equipped with shielding or other acceptable fire prevention features.
- j) Contact with local firefighting agencies shall be maintained for updates on fire conditions, and such fire conditions shall be communicated to on-site employees daily during times of elevated fire danger.
- k) Vehicles shall be restricted to Proposed Project right of way unless otherwise allowed for fire control procedures.
- l) If a fire should start, fire protection agencies shall be notified immediately and all reasonably necessary and prudent fire suppression activities shall commence, including but not limited to, extinguishers, water and chainsaws.

BMP-4: Noise Abatement Plan – Noise shall be minimized as much as reasonably possible. At a minimum, the following measures shall be followed, if applicable:

- a) Preventive maintenance including practicable methods and devices to control, prevent and minimize noise.
- b) All equipment, fixed or mobile, shall be equipped with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards.
- c) Locating and placing noise barriers around stationary equipment.
- d) Rerouting truck traffic to avoid or reduce noise impacts.
- e) Scheduling construction activities with the most intense noise activities to occur when ambient noise is also at a high level at that location.
- f) Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered whenever feasible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used wherever feasible. Quieter procedures, such as use of drills rather than impact tools shall be used whenever feasible.
- g) High noise-intensive operations shall be performed as far from residential areas as feasible. High noise activities near residences are restricted to between 8:00 a.m. and 5:00 p.m, unless otherwise required or as permitted by the appropriate regulatory agency(ies).

BMP-5: Construction Debris Recycling and Diversion Plan – The generation of construction and demolition waste shall be minimized to reduce pollution through recycling of materials. The plan shall include the following:

- a) Identify the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the Proposed Project or salvage for future use or sale.

- b) Identify whether construction and demolition waste materials will be sorted on site (source-separated) or bulk mixed (single stream).
- c) Identify diversion facilities where construction and demolition waste material will be taken.
- d) Develop and implement a waste management training plan for all workers at the jobsite.
- e) All rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- f) If vegetation and soil are contaminated, the Contractor will follow appropriate disposal techniques.

BMP-6: Green House Gas Emissions – According to DWR’s Greenhouse Gas Emissions Reduction Plan (GGERP) in Appendix A, all DWR projects are expected to implement the following BMPs into the project design:

- a) 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.
- b) Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.
- c) 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.
- d) 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.
- e) 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.
- f) Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.
- g) Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). 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.
- h) 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.

- i) Implement tire inflation program on jobsite 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.
- j) Develop a project specific ride share program to encourage carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.
- k) 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.
- l) 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 SmartWay27 certified truck will be used to the maximum extent feasible.
- m) 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.
- n) Develop a project specific construction debris recycling and diversion program to achieve a documented 50% diversion of construction waste.
- o) 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.

BMP-7: Spill Prevention Control and Countermeasure Plan (SPCCP)- Drilling

Fluids and Explosives – A plan shall be developed to describe the methods that will be used to prevent, contain and immediately clean up spills of drilling fluids or explosives.

- a) Drilling shall cease immediately if hydraulic oil or other fluid leaks occur.
- b) Spills shall be cleaned up immediately and no further drilling work shall occur until new spill containment plans are approved by the Engineer.

BMP-8: Blast Plan – A conceptual Blasting Plan and detailed Blasting Plan shall be developed prior to blasting activities. The plans shall include methods for control of noise and dust, as well as vibration monitoring during blasting work.

- a) Drilling and blasting shall be performed carefully and skillfully to minimize overbreak and to preserve the surrounding structures outside the limits of the demolition in the soundest and most undisturbed condition within practical limits.
- b) If drilling and blasting operations produce unacceptable results such as overbreak, tights, flyrock, unacceptable air-overpressure, or excessive vibrations, the blasting plans shall be revised to employ methods which shall produce acceptable results. Revision shall include reductions in blast size, modified spacing or burden of blast holes, using different delay patterns, or combination thereof.
- c) Blasting will be minimized to the amount necessary to complete work. Excessive blasting will not be permitted. The Contractor shall remove material outside the authorized cross section, which is shattered or loosened because of blasting. The Contractor shall discontinue methods of blasting which lead to overshooting, overbreaking or danger to the public or destruction to property or to natural features.
- d) Rock blasting and excavation shall be performed in a manner which will minimize vibration to the existing residences and other occupied structures.
- e) Dust from drilling operations shall be continuously controlled by use of dust collectors or water misting.
- f) Whenever further blasting may damage the final rock slope or the stability of the slope, the use of explosives shall be discontinued, and the excavation shall be completed by hydraulic hammer, channel and line drilling, or other suitable methods for the conditions encountered as approved by the Engineer and shall be subjected to monitoring and other requirements as determined by the Engineer.
- g) At the end of each working day, the blasting site and roadways shall be cleaned of debris, wires, tubes, trash, and other materials associated with the blasting operation.
- h) No blasting is permitted during nights, weekends and State Holidays unless special circumstances warrant another time and day, and special approval is granted by the Engineer.
- i) The project contractor will monitor and record vibration for blasts within 1,500 feet of the facilities existing structures to verify that measured vibration levels are within the specified limits at those locations.
 - a. The contractor shall use blasting seismographs containing three channels that record in three mutually perpendicular axes and which have a fourth channel for recording airblast. The frequency response of the instrumentation shall be from 2 to 250 Hz, with a minimum sampling rate

of 1,000 samples per second per channel. The recorded data must be such that the frequency of the vibrations can be determined readily. If blasting is found to exceed specified levels, blasting shall cease, and alternative blasting or excavation methods shall be employed that result in the specified levels.

- b. Vibration monitoring shall take place at the nearest concrete structure and at one other location approved by the Engineer. Specified locations and distances where vibration is measured shall be documented in detail along with measured vibration amplitude.

2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture/Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Finding 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 Proposed Project have been made by or agreed to by the Proposed 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.

Signature

Date

2.1 EVALUATION OF ENVIRONMENTAL IMPACTS

2.1.1 AESTHETICS

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|-------------------------------------|
| Except as provided in Public Resources Code Section 21099, would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2.1.1.1 Environmental Setting

2.1.1.2 Discussion

The Proposed Project area is within the drawdown zone of Lake Oroville between elevations of 640 feet to 900 feet. Full pool elevation of the lake is 900 feet. This portion of the drawdown zone is mainly void of vegetation. The Lakeside Access Road is only visible from two nearby roadways, Oroville Dam Road and the upper portion of Canyon Drive. A small number of residential houses within the Kelly Ridge neighborhood and scattered houses on the northeast side of Lake Oroville are within view of the Proposed Project. There are no state-designated scenic roadways located near the Proposed Project site (California Department of Transportation 2017). The road is adjacent to existing flood control structures, including the Lake Oroville Dam, the FCO Spillway, Emergency Spillway, and the Spillway Boat Ramp, Day Use Area and parking area.

a) Would the project have a substantial adverse effect on a scenic vista?

Less than significant impact. A scenic vista is defined as an expansive view of a highly valued landscape from a publicly accessible viewpoint. The Proposed Project is within the unvegetated drawdown zone of Lake Oroville and is surrounded by existing flood control structures. The Lakeside Access Road and eroded Boat Ramp parking area outfall channel repair site would only be visible from two nearby roadways, the upper Spillway Boat Ramp Parking Area, Dam Crest Parking Lot (Figure 2), and a limited number of residential houses. Under normal water years, the road and eroded area would be under water approximately six months out of the year and not visible to the public. The update of the existing access road and repair of the eroded outfall channel would not substantially change the visual characteristics of the Lake Oroville facilities. Therefore, the Proposed Project would have a less than significant impact on scenic vistas.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No impact. The Proposed Project would not be visible from a state scenic highway, and would not remove any existing structures, trees, rock outcroppings, or historical buildings. Therefore, the Proposed Project would have no impact on scenic resources.

c) Would the project, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage

point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than significant impact. The Proposed Project is located directly adjacent to Lake Oroville flood control facilities within the unvegetated barren lakebed. As such, the existing visual character of the Proposed Project site is degraded. Because the Proposed Project is located within the fluctuation zone of the lake, a majority of the Proposed Project would be underwater approximately six months out of the year, and therefore not visible to the public. Additionally, the Proposed Project involves improving an existing access road and repairing an eroded outfall channel, and would not substantially change the visual characteristics of the Lake Oroville facilities. Therefore, impacts from the Proposed Project to the existing visual character or quality of the site and surroundings would be considered less than significant.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than significant impact. Construction vehicles and equipment would create a temporary source of light and glare, primarily during daylight hours. Construction activities would mainly occur during daylight hours, although night work may occur if needed due to an accelerated schedule. In this case, lighting would be limited to the Proposed Project area. These sources of light and glare from construction vehicles and equipment would be temporary and minimal, and are only visible from Oroville Dam Road, the upper portion of Canyon Drive, and a limited number of residential houses. Though concrete has a high solar reflectance value, it's visible character readily exists throughout urban and non-urbanized settings and would therefore not differ from surrounding ambient infrastructure. (Pomerantz et. al. 2003). In addition, concrete roads wear and darken with time, decreasing the solar reflectance. The road may cause vehicular glare, however, vehicular use is already common along the Dam Crest Road and would therefore not provide any additional glare beyond what already exists during high-traffic seasons. Therefore, impacts from the Proposed Project would be considered less than significant.

2.1.2 AGRICULTURE AND FORESTRY RESOURCES

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|----------------------|--------------------------------|--|------------------------------|-----------|
|----------------------|--------------------------------|--|------------------------------|-----------|

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non- | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

agricultural use or conversion of forest
land to non-forest use?

2.1.2.1 Environmental Setting

The Proposed Project is located within the unvegetated drawdown zone of Lake Oroville, and is surrounded by Lake Oroville, flood control facilities, the Spillway Boat Ramp and parking area, and forest landscape (Potters Ravine Recreation Area). The Farmland Mapping and Monitoring Program (FMMP) classifies the land within the Proposed Project area as predominantly “Water”, with some “Urban and Built-up Land”. Adjacent land use is classified as “Grazing Land” and “Other Land” (California Department of Conservation 2016).

Forestry resources are lands defined as forest land, including timberland in the Z'berg-Warren-Keene-Collier Forest Taxation Reform Act 1976 (Tax Reform Act). The Fire Return Interval Departure map classifies the land within the Proposed Project area as predominantly “Water”, with some “Valley Grassland”. Adjacent land is classified as “Urban” and “Forest Land” (Stafford et al 2013).

Butte County Zoning Ordinance

The Proposed Project area is located on a parcel zoned as “Water” and “Heavy Industrial” by Butte County (Butte County Development Services 2019). Permitted uses for Heavy Industrial include operations that necessitate the storage of large volumes of hazardous or unsightly materials, or which produce dust, smoke, fumes, odors, or noise at levels that would affect surrounding uses.

Farmland

Important farmland is categorized by the California Department of Conservation as prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance. These categories consider physical and chemical features including soil quality, growing season, and moisture supply to rate the type of land that is currently or during the previous four years, used for agricultural purposes (California Department of Conservation 2019a). The Proposed Project is not located on mapped important farmland (California Department of Conservation 2016).

Williamson Act Lands

Under the Williamson Act (1965), local governments can enter into contracts with private property owners to protect land (within agricultural preserves) for agricultural and

open space purposes. The program took off when it was added to the State's Constitution allowing for preferential assessments. Some counties are phasing out the Williamson Act Lands as they no longer receive financial assistance from the State in the form of Open Space Subvention payments. Counties may not report updated Williamson Act enrollment figures because they lack planning staff to administer the Williamson Act program. Therefore, this analysis reflects the most recent available Williamson Act enrollment data reported by the counties.

Approximately 16 million acres have been consistently enrolled under the Williamson Act statewide since the early 1980s (California Department of Conservation 2019b). This represents almost half of California's farmland and nearly one-third of its privately-owned land. The Proposed Project is not located on mapped Williamson Act Land.

Forest Land

Forest land is defined as native tree cover greater than 10% that allows for management of timber, aesthetics, fish and wildlife, recreation, and other public benefits (California Public Resources Code (PRC) Section 12220(g)). The Proposed Project is not located within areas mapped as forest land on the Fire Return Interval Departure map (Stafford et al 2013).

Timberland, a subset of forest land, is defined by State law as land that is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products (PRC Section 4526), and can produce an average annual volume of wood fiber of at least 20 cubic feet per acre per year at its maximum production (PRC Section 51104(g)). The Proposed Project area does not contain areas zoned for timber production.

2.1.2.2 Discussion

- a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No impact. The FMMP classifies the land within the Proposed Project area as "Water" and "Urban and Built-up Land". The Proposed Project would not affect any lands classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, there would be no impact.

- b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?**

No impact. The FMMP classifies the land within the Proposed Project area as “Water” and “Urban and Built-up Land”. The Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, there would be no impact.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No impact. The Fire Return Interval Departure map classifies the land within the Proposed Project area as predominantly “Water”, with some “Valley Grassland”, and is zoned as “Water” and “Heavy Industrial” by Butte County. The Proposed Project would not conflict with existing zoning for forest land or timberland. Therefore, there would be no impact.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No impact. The Proposed Project is located within the unvegetated drawdown zone of Lake Oroville and will not result in the loss or conversion of forest land. Therefore, there would be no impact.

e) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No impact. The Proposed Project is not located within FMMP-designated farmland, nor is it located within forest land. The purpose of the Proposed Project is to provide access to the already existing Spillway Boat Ramp and parking area and would not cause any other changes to the existing environment that would result in conversion of Farmland or forest land to other uses. Therefore, there would be no impact.

2.1.3 AIR QUALITY

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|----------------------|--------------------------------|--|------------------------------|-----------|
|----------------------|--------------------------------|--|------------------------------|-----------|

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
-

2.1.3.1 Environmental Setting

National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), and lead (Pb). These standards have been established with a margin of safety to protect the public's health. Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) designate areas of the state as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively.

An "attainment" designation for an area signifies that pollutant concentrations did not violate the NAAQS or CAAQS for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as

identified in the criteria. A “maintenance” designation indicates that the area was previously in non-attainment and is currently in attainment for the applicable pollutant; the area must demonstrate continued attainment for a specified number of years prior to re-designation as an “attainment” area. An “unclassified” designation signifies that data do not support either an attainment or nonattainment status.

The Proposed Project site is located in Butte County, which is located within the Sacramento Valley Air Basin (SVAB) and under the local jurisdiction of the Butte County Air Quality Management District (BCAQMD). Butte County is in a “non-attainment” status for ozone (State 1-hour and federal 8-hour) and State air quality standards for particulate matter (PM₁₀ and PM_{2.5}) (BCAQMD 2019).

Sacramento Valley Air Basin

The SVAB covers all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties, the westernmost portion of Placer County and the northeastern half of Solano County. The SVAB is bound by the North Coast Ranges to the west and the Northern Sierra Nevada Mountains to the east. The intervening terrain is relatively flat. It has a Mediterranean climate characterized by hot dry summers and mild rainy winters. During the year the temperature may range from 20 to 115 °F, with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is approximately 20 inches, with about 75 percent of the rain occurring during the rainy season, generally from November through March. Ozone is the primary criteria pollutant of concern in the SVAB.

Butte County Air Quality Management District Standards

The BCAQMD is the primary agency responsible for assuring that the NAAQS and CAAQS are attained and maintained in Butte County. The BCAQMD is one of six air quality management entities within the Northern Sacramento Valley Planning Area. Air quality districts are created pursuant to the California Clean Air Act (BCAQMD 2014).

The BCAQMD has thresholds for criteria air pollutants and toxic air contaminants, and greenhouse gasses. Thresholds for criteria air pollutants are based upon District Rule 430 - State New Source Review (SNSR), which incorporates stationary permitting significance thresholds for ambient air quality standards as required by California Health and Safety Code Section 40918. The BCAQMD has only established thresholds of significance for criteria air pollutants; while it provides guidance with regards to impacts related to toxic air contaminants and greenhouse gases (GHGs) (BCAQMD 2014). Project-specific modeling results for criteria air pollutants should be compared with Table 3 below to determine their significance.

Table 3. BCAQMD Air Quality Thresholds of Significance for Criteria Air Pollutants

| Pollutant | Construction Related | Operation-Related |
|--|---|-------------------|
| ROG (reactive organic gasses) | 137 lbs/day, not to exceed 4.5 tons/year | 25 lbs/day |
| NO _x (nitrogen oxides) | 137 lbs/day, not to exceed 4.5 tons/year | 25 lbs/day |
| PM ₁₀ (particulate matter < 10 microns) | 80 lbs/day | 80 lbs/day |

Source: BCAQMD 2014

Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan

The BCAQMD's Air Quality Attainment Plan was first adopted in 1994 and updated in 1994, 1997, 2000, 2003. The BCAQMD collaborated with other air pollution control districts in the Northern SVAB in 2006 to prepare a joint Air Quality Attainment Plan. The joint plan was updated in 2006, 2009, 2012, and 2015. The currently applicable air quality plan for the BCAQMD is the latest edition of the Northern Sacramento Valley Planning Area Air Quality Attainment Plan (at present, the 2015 Triennial Air Quality Attainment Plan). The Attainment Plan provides a description, designated attainment status, air monitoring and emission inventory, public education programs, pollutant transport, feasible control measures, and ozone trends for the Attainment Plan area (BCAQMD 2014).

2.1.3.2 Impact Assessment Approach

The Proposed Project's impacts to air quality were assessed using methods and assumptions recommended by the BCAQMD. The Proposed Project involves road improvements and minor erosion repairs and does not involve building any permanent structures or facilities that would generate air pollutants. When the Proposed Project is complete, all construction activities will cease, and no further construction-related emissions will be generated. Improvements to the road would only allow for alternate access to existing recreational facilities during low lake levels and would not increase the use of those facilities. Because potential impacts to air quality would only occur during the period when construction is occurring, this impact analysis will focus on air pollutant emissions from Proposed Project activities only.

2.1.3.3 Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. In general, a project would be deemed inconsistent with an air quality plan if it would result in or induce growth in population, employment, land use, or

regional vehicle miles traveled (VMT) that is inconsistent with the growth (and therefore the emission projection) assumptions in the BCAQMD is the Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan (BCAQMD 2014).

The Proposed Project includes improvements to an access road and erosion repairs within Lake Oroville and would have no effect on growth of the above parameters due to the temporary nature of the Proposed Project. Therefore, the Proposed Project would not conflict or obstruct implementation of the applicable air quality plan.

b) Would the project 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?

Less than significant impact. The BCAQMD has identified air quality thresholds of significance for criteria air pollutants for which the region is in non-attainment (see Table 4). According to the BCAQMD CEQA Guidelines, projects that do not exceed the significance thresholds may be assumed to have a less than significant impact in regard to a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment (BCAQMD 2014).

The BCAQMD recommends using the CalEEMod software (Version 2016.3.2) to calculate project emissions of criteria air pollutants. The maximum daily and annual emissions that are anticipated to result from the Proposed Project activities are shown in Table 4, below. A conservative approach was taken when modeling project emissions, and actual project emissions are expected to be below the modeled projections. Emissions for all criteria pollutants during Proposed Project activities, would be below BCAQMD daily and annual construction thresholds (Table 4).

Table 4. Maximum Daily and Annual Emissions Anticipated from Project Activities

| Pollutant | BCAQMD Threshold of Significance for Average Daily Emissions (pounds) | Calculated Average Daily Construction Emissions (pounds) |
|---------------------------------------|---|--|
| ROG (reactive organic gasses) | 137 (not to exceed 4.5 tons/year) | 7.17 (0.43 tons/year) |
| NOx (nitrogen oxides) | 137 (not to exceed 4.5 tons/year) | 73.33 (4.40 tons/year) |
| PM10(particulate matter < 10 microns) | 80 lbs/day | 11.83 (0.71 tons/year) |

Source: CalEEMod emissions modeling

Because emissions for all criteria pollutants during Proposed Project activities would be below BCAQMD thresholds, no mitigation is required. The Proposed Project includes implementation of BMPs that would further reduce potential impacts to air quality. Implementation of BMP-1: Air Quality Control Plan (Section 1.2.4), includes measures for fugitive dust suppression and reducing construction-related emissions. Implementation of this BMP would further reduce project emissions of PM₁₀. BMP-6: Greenhouse Gas Emissions (Section 1.2.4, includes BMPs set forth in DWR's GGERP to further reduce GHG emissions from Proposed Project activities. Therefore, this impact would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact. Construction of the Proposed Project would result in short-term diesel emissions from on-site heavy-duty equipment. While most of the excavated material will be used as backfill for road improvements, 4,000 cubic yards of excavated material will be hauled to a local off-site location, and some materials (aggregate base, riprap) may need to be brought in from a local facility. Therefore, a limited amount of hauling would be required. Proposed Project impacts would be short-term in duration and would not increase the amount of emissions due to the operation of the road. Additionally, the Proposed Project area is approximately one mile away from the nearest sensitive receptor, a small residential community, at which distance emissions from heavy-duty equipment will have dissipated. As discussed in section (b) above, construction-related emissions are below the significance thresholds established by the BCAQMD. Therefore, impacts would be less than significant.

d) Would the project create objectionable odors affecting a substantial number of people?

Less than significant impact. The Proposed Project would not result in odor-causing emissions that would affect a substantial number of people. The Proposed Project is located approximately one mile from the nearest sensitive receptor, a small residential community. Odor created by the Proposed Project would only include odors associated with diesel exhaust from the use of heavy machinery, would be temporary in nature, is localized and would dissipate rapidly from the Proposed Project area with an increase in distance. Therefore, impacts due to objectionable odors would be less than significant.

2.1.4 BIOLOGICAL RESOURCES

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------------|--|------------------------------------|-------------------------------------|
| 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 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.4.1 Environmental Setting

The Proposed Project is located in Butte County within the Northern Sierra Nevada Foothills Province (Baldwin, ed. 2012). The regional climate is generally Mediterranean in nature with warm, dry summers and rainy winters. Average annual temperatures range from approximately 37.2 degrees Fahrenheit in January to 96.4 degrees Fahrenheit in July. The average annual precipitation is approximately 28.77 inches per year (WRCC 2020).

The Proposed Project is located at Lake Oroville, a 3.54-million-acre-foot (maf) reservoir located 5 miles east of the City of Oroville and about 130 miles northeast of San Francisco. The West Branch, North Fork, South Fork, and Middle Fork Feather Rivers are the primary rivers that form the reservoir at Lake Oroville. Water from Lake Oroville is released from Hyatt Power Plant into the Thermalito Diversion Pool, downstream through the River Valve Outlet, or over the FCO Spillway into the Feather River. A fish barrier dam is located approximately 4.5 miles downstream of the Oroville Dam on the Feather River.

The Proposed Project is located in the lakebed of Lake Oroville within the unvegetated reservoir fluctuation zone, which ranges from 640 feet to 900 feet elevation. When the reservoir elevation is at minimum pool elevation, 640 feet, the shoreline perimeter is approximately 107 miles and the reservoir surface area is approximately 5,796 acres. The areal extent between the shoreline at full pool level and the shoreline at minimum

pool level at 640 feet (i.e., areal extent of the fluctuation zone) is approximately 9,550 acres.

The Proposed Project area encompasses a pre-existing dirt and gravel maintenance road - the Lakeside Access Road, that DWR utilizes to conduct maintenance activities for the Flood Control Outlet (FCO) Spillway, emergency spillway, and Oroville Dam Spillway Boat Ramp.

Beginning in June 2017, temporary improvements began on the Lakeside Access Road within the lakebed to support heavy machinery and a higher level of use to re-route heavy vehicular traffic associated with the Oroville Emergency Response and Recovery Project around the Spillway Bridge. These temporary road improvements included placing dirt and aggregate base material along the existing maintenance road alignment. All fill material associated with the temporary road improvement was removed as of January 2020, and the Lakeside Access Road was returned to pre-project conditions and contours.

2.1.4.2 Methodology

A list of special-status species and plant communities with the potential to occur within the Proposed Project area was compiled (Appendix A) for the Proposed Project. The list was developed from a review of the following sources:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) for the following nine USGS 7.5 minute Quadrangle maps: Cherokee, Berry Creek, Brushy Creek, Oroville, Oroville Dam, Forbestown, Palermo, Bangor, and Rackerby (CDFW 2019);
- U.S. Fish and Wildlife Service website (USFWS) Information for Planning and Consultation (iPaC) system (USFWS 2019); and
- California Native Plant Society (CNPS) on-line Inventory of Rare and Endangered Plants for the following nine USGS 7.5 minute Quadrangle maps: Cherokee, Berry Creek, Brushy Creek, Oroville, Oroville Dam, Forbestown, Palermo, Bangor, and Rackerby (CNPS 2019).

The complete list includes information on species status, habitat description, whether potential habitat occurs in the Proposed Project area, and whether impacts to the species are expected due to the Proposed Project. Expected species impacts were determined through a review of CNDDDB Geographic Information System (GIS) records, analysis of aerial imagery, and information collected during DWR site surveys.

The Proposed Project area has been monitored by DWR Environmental Scientists and consultants from 2017 to the present due to the on-going emergency response, recovery and rehabilitation activities at the Oroville Spillway.

2.1.4.2.1 *Habitat Types*

The dominant habitat within and surrounding the Proposed Project is aquatic lakebed, developed land, chaparral/grassland, and oak woodland/foothill pines. The Proposed Project location is within the drawdown zone of Lake Oroville and within the previously heavily disturbed area surrounding the Oroville Dam and FCO Spillway. Large water elevation fluctuations in Lake Oroville, in addition to the reservoir's poor soils, limit vegetation establishment within this zone. The Proposed Project footprint contains disturbed soils that are inundated during high water years. Lake levels recede and expose the site to wave action and drought conditions during the summer and fall months. The limited vegetation within the Proposed Project site consists of sparse annual ruderal species that germinate immediately following draw down of lake levels. The remainder of the Proposed Project footprint is developed land consisting of a paved parking lot and boat ramp.

Habitat directly adjacent to and surrounding the Proposed Project consists of moderate to dense mixed oak woodland/foothill pines and chaparral/grassland, as well as developed land, including permanent parking lots, boat ramps, permanent and temporary building structures, and the FCO Spillway gate.

2.1.4.3 Special-Status Species

For the purpose of this analysis, special-status has been defined to include those species that meet the definitions of rare, endangered or threatened plants or animals under CEQA including species that are:

- Listed as endangered or threatened under the FESA (or formally proposed for, or candidates for, listing);
- Listed as endangered or threatened under CESA (or proposed for listing);
- Designated as endangered or rare, pursuant to California Fish and Game Code Section 1901;
- Designated as fully protected, pursuant to California Fish and Game Code Sections 3511, 4700, or 5050;
- Designated as a species of special concern by CDFW; or
- Included in California Native Plant Society's Inventory of Rare Plants (Rare Plant Rank 1 through 4).

The table located in Appendix A provides a summary of regionally occurring special-status species based on queries of the CDFW CNDDDB, USFWS iPaC, and the CNPS database. Potential to occur in the Proposed Project area was based on the presence

of each species or its habitat recorded during biological surveys and consultation with DWR Environmental Scientists with experience on-site. Special-status species with no potential to occur within the Proposed Project area are not discussed further.

Based on the availability of suitable habitat and nearby occurrences, four special-status plant species and five special-status wildlife species are considered to have a potential to occur in the Proposed Project area and are discussed further below.

2.1.4.3.1 Special-Status Plants

This section includes species accounts for plant species that have the potential to occur at the Proposed Project site and further discusses the effect determinations made in the species table found in Appendix A.

Special status plant species that have the potential to occur at the Proposed Project site include: Mexican mosquito fern (*Azolla microphylla*), woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), brownish beaked-rush (*Rhynchospora capitellata*), and Sanford's arrowhead (*Sagittaria sanfordii*).

Mexican mosquito fern (*Azolla microphylla*)

Mexican mosquito fern has a California Rare Plant Rank (CRPR) of 1B.1 but is not listed under FESA or CESA. This aquatic fern is found in the north and south High Sierra Nevada, Sacramento Valley, San Joaquin Valley, Central Coast, San Francisco Bay Area, San Bernardino Mountains, White and Inyo Mountains, and east of the Sierra Nevada at elevations under 1200 meters (Jepson Flora Project 2020). It grows in ponds, slow streams, marshes, and swamps (CDFW 2019, CNPS 2020, Smith and Murdock 2012, Jepson Flora Project 2020). Threats to Mexican mosquito fern include potential risk from aquatic weed management and maintenance activities (use/run-off of chemicals), and competition from invasive plants.

The Proposed Project has a low potential to affect Mexican mosquito fern, due to the lack of suitable aquatic habitat within the Proposed Project area. While the Proposed Project site is adjacent to ponded, still water, this species is usually found in marshes and swamps. There is a low likelihood of occurrence due to absence of marsh and swamp, and locations within the drawdown zone near the emergency spillway where there are continuous water level fluctuations, irregular inundation, on-going maintenance activities, and disturbance. In addition, the species is not known to occur in the Proposed Project area.

Woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*)

Woolly rose-mallow has a CRPR of 1B.1 but is not listed under FESA or CESA. This species is a perennial rhizomatous herb in the mallow family, and it blooms from June to September (CNPS 2019). It is endemic to California, and its current range includes the Cascade Range Foothills, central and southern Sacramento Valley, and the Sacramento-San Joaquin Delta region of the Central Valley (CNPS 2019, Jepson Flora Project 2019). It typically grows in marshes and swamps (CNPS 2019). The microhabitat for woolly rose-mallow includes moist, freshwater-soaked river banks and low peat islands in sloughs; it can also occur on riprap and levees (CDFW 2019). Threats to this species include habitat disturbance, development, agriculture, recreational activities, and channelization of the Sacramento River and its tributaries. It is also threatened by weed control measures and erosion (CNPS 2019).

The Proposed Project has a low potential to affect woolly rose-mallow, due to the lack of suitable aquatic habitat within the Proposed Project area. While the Proposed Project site is adjacent to ponded, still water, this species is usually found in marshes and swamps. There is a low likelihood of occurrence due to absence of marsh and swamp, and locations within the drawdown zone near the emergency spillway where there are continuous water level fluctuations, irregular inundation, on-going maintenance activities, and disturbance. In addition, the species is not known to occur in the Proposed Project area.

Brownish beaked-rush (*Rhynchospora capitellata*)

Brownish beaked-rush has a CRPR of 2B.2 but is not listed under FESA or CESA. This species is a perennial grass-like herb. Its current range is in the north and central Sierra Nevada foothills and high Sierra Nevada, the outer North Coast Ranges, and in the Klamath Ranges. It can be found in wet meadows, fens, seeps, and marshes below 2000 meters (CDFW 2019, Smith 2012, Jepson Flora Project 2020). Brownish beaked-rush is potentially threatened by grazing and development.

The Proposed Project has a low potential to affect brownish beaked-rush, due to the lack of suitable aquatic habitat within the Proposed Project area. While the Proposed Project site is adjacent to ponded, still water, this species is usually found in wet meadows and marsh. There is a low likelihood of occurrence due to absence of wet meadows and marsh habitat, and locations within the drawdown zone near the emergency spillway where there are continuous water level fluctuations, irregular inundation, on-going maintenance activities, and disturbance. In addition, the species is not known to occur in the Proposed Project area.

Sanford's arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead has a CRPR of 1B.2 but it is not listed under FESA or CESA. This species is a perennial rhizomatous herb in the water-plantain family, and it blooms from May through November (CNPS 2019). It is endemic to California, and its current range

includes the northern North Coast, Klamath Ranges, Cascade Range Foothills, Central Valley, and northern South Coast (CNPS 2019; Jepson Flora Project 2019). However, it is presumed extirpated from the South Coast region, including Orange and Ventura Counties. It typically grows in shallow freshwater marshes and swamps (CNPS 2019). The microhabitat for Sanford's arrowhead includes standing or slow-moving freshwater ponds, marshes, and ditches (CDFW 2019). Sanford's arrowhead is threatened by grazing, development, recreational activities, non-native plants, road widening, channel alteration, and maintenance (CNPS 2019). Sanford's arrowhead has been documented near Lake Oroville but not within a 0.5-mile buffer around the Proposed Project site.

The Proposed Project has a low potential to affect Sanford's arrowhead, due to the lack of suitable aquatic habitat within the Proposed Project area. While the Proposed Project site is adjacent to ponded, still water, this species is usually found in ponds, marshes, and swamps. There is a low likelihood of occurrence due to absence of standing ponds, marshes, and ditches as well as locations within the drawdown zone near the emergency spillway where there are continuous water level fluctuations, irregular inundation, on-going maintenance activities, and disturbance. In addition, the species is not known to occur in the Proposed Project area.

2.1.4.3.2 Special-Status Wildlife

This section includes species accounts for wildlife species that have the potential to occur at the Proposed Project site and further discusses the effects determinations made in the species table found in Appendix A.

There are five wildlife species that have the potential to occur at the Proposed Project site: Western pond turtle (*Emys marmorata*), Western Burrowing Owl (*Athene cunicularia*), Bald Eagle (*Haliaeetus leucocephalus*), Osprey (*Pandion haliaetus*), and myotis bat (*Myotis sp.*).

Western pond turtle (*Emys* (=Actinemys) *marmorata*)

Western pond turtle is under review for listing under the FESA and is a CDFW Priority One Species of Special Concern (USFWS 2015b, Thompson et al 2001). Western pond turtle is a small to medium-sized aquatic turtle, with a straight carapace that measures 6.5 to 7 inches long. It is brown, tan, or olive with a low, unkeeled carapace with a non-serrated rim (Nafis 2019, Stebbins 2003). Western pond turtle is found from the Pacific Coast inland to the Sierra Nevada foothills to elevations as high as 6,700 ft above sea level.

Western pond turtle is a highly aquatic species and can be found in a variety of habitat types including streams, rivers, sloughs, lakes, ponds, reservoirs, marshes, seasonal

ponds, and other wetland habitats (Thompson et al 2016). It requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks for thermoregulation, and access to suitable upland habitat with loose soils for nesting, dispersal and overwintering (Thompson et al 2016). It is active year-round in warmer locations but in colder climates will spend winter months in a state of dormancy, often burrowing into loose soil or leaf litter on land, or using undercut banks, snags, rocks or bottom mud in ponds (Thompson et al. 2016). Western pond turtle diet consists of aquatic invertebrates, algae and other vegetation, small vertebrates, and carrion.

Breeding occurs from spring through fall, with nesting taking place from spring to early summer. Nest sites are usually within 100 meters of water, although nests have been reported as far away as 500 meters. Females lay from 1 to 13 eggs, which hatch in the fall, and the young remain in the nest until the following spring.

The Proposed Project has a low potential to affect western pond turtle, due to low availability of suitable aquatic and upland habitat and no documented occurrences of the species within or around the Proposed Project area.

Western Burrowing Owl (*Athene cunicularia*)

Western Burrowing Owl is a California Species of Special Concern. Burrowing Owl is a small, ground-dwelling owl with brown and cream plumage and yellow eyes. The species' range extends from Canada to Mexico and is found throughout California, except for high elevations (Poulin et al. 2011). It primarily inhabits grasslands with abundant ground squirrel populations, but also occurs in desert and open shrub habitats. Burrowing Owl uses burrows in areas with relatively short vegetation with sparse shrubs or taller vegetation for roosting and nesting and can persist in human-altered landscapes. Individuals in agricultural environments nest along roadsides and water conveyance structures. Breeding occurs from February through September (CDFW 1999).

The Proposed Project has a high potential to affect Western Burrowing Owl. This species is known to occur nearby as suitable habitat occurs in many locations. This species did not occur on the site historically, but OER construction work created suitable habitat conditions. Surveys have documented an individual Western Burrowing Owl using area adjacent or within the Proposed Project in the winter when water recedes and the lake level is low. However, breeding or non-breeding Western Burrowing Owls have not been documented during the nesting season, partially due to the rising lake level during the winter and early spring which reduces or eliminates the availability of burrows and suitable habitat.

Bald Eagle (*Haliaeetus leucocephalus*)

Bald Eagle is a California Endangered Species that is fully protected. It was delisted under the federal ESA and is protected under the federal Bald and Golden Eagle Protection Act. Bald Eagle is a large raptor found in all contiguous states of North America, including Alaska. Adults are dark brown with a distinctive pure white head and tail, while young/juvenile birds have mottled dark brown and white feathers. Bald Eagle can be found in a variety of habitats including mountains, forest, and woodland, primarily near bodies of water such as rivers, lakes, streams, and wetlands. Within the state, most breeding for this species occurs in northern California, but can occur in scattered locations in coastal and inland central and southern California. Breeding season in California typically occurs from January through July/August although resident pairs may overwinter, typically in the vicinity of their nesting territories.

Bald Eagle has a high potential to occur within the Proposed Project area. Suitable habitat occurs in many locations and the species is present year-round in the area. There is a well-documented overwintering Bald Eagle population at Lake Oroville as well as recorded nesting territories. The seven Bald Eagle nesting territories identified in the Lake Oroville area are not adjacent to the Proposed Project.

Osprey (*Pandion haliaetus*)

Osprey is a species on the CDFW Watch List. Osprey is a large raptor with a brown back and wings, white underparts, a white head with a brown line through the eye, and a hooked beak. The species' range includes all of North America; in California, it breeds primarily from the Cascade Range to Lake Tahoe and south to Marin County. Its year-round range includes the northern and western portions of the Central Valley (CDFW 1990). Habitat includes riparian, lakes, and coastal. The species nests in large open forest trees and snags, and on man-made structures near open water. Osprey hunt for fish by diving into open water and clasping prey in their talons (Bierregaard et al. 2016). Breeding takes place from March through September (CDFW 1990).

Osprey has a high potential to occur within the Proposed Project area, as suitable nesting and foraging habitat occurs in many locations. The species has been observed foraging within the Proposed Project area and nests have been observed around the lake and near the Thermalito Diversion Pool below the FCO Spillway.

Yuma Myotis (*Myotis yumanensis*)

Yuma myotis has no federal or State listing, but has other status listings (Bureau of Land Management [BLM]: sensitive, International Union for Conservation of Nature [IUCN]: least concern, and Western Bat Working Group [WBWG]: Low-Medium priority). Adult Yuma myotis are approximately 3 to 3.5 inches long and have a 9 to 10-inch wingspan with small and pale brown to gray ears, dark brown wings, and bodies that range in color from grey and light to dark brown (WBWG 2020, Northern California Bats

2020). Yuma myotis are distributed across western North America from British Columbia to Baja California and southern Mexico. This bat is usually associated with permanent sources of water, and occurs in a range of habitat including riparian, forest, and arid deserts. The species lives in crevices of trees, cliffs, caves, and other man-made structures such as buildings, bridges, and mines (Western Bat Working Group 2020). It emerges after sunset and feeds on aquatic insects such as caddis flies, midges, flies, beetles, and small moths. Yuma myotis live in colonies of up to 5,000 bats; females raise young in maternal roosts during mid-spring through mid-summer (Western Bat Working Group 2020). Yuma myotis are similar to and often mistaken for little brown myotis (*Myotis lucifugus*).

Yuma myotis has a high potential to occur near the Proposed Project area, as suitable habitat occurs in the vicinity. In addition, individuals of the species have been observed roosting in the FCO Spillway radial gates near the Proposed Project area. Solitary myotis have been observed during surveys and regular monitoring, but no maternal roosts were found.

2.1.4.4 Discussion

- a) Would the project 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 Wildlife, the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service?**

Less than Significant with Mitigation Incorporated. As discussed above and noted in Appendix A, the Proposed Project area provides potentially suitable habitat for 9 special-status species: Mexican mosquito fern, woolly rose-mallow, brownish beaked-rush, Sanford's arrowhead, western pond turtle, Western Burrowing Owl, Bald Eagle, Osprey, and Yuma myotis (and *Myotis sp.*). Implementation of Mitigation Measures Bio-1 through Bio-7 (below) will reduce the likelihood of impacting special-status plant and animal species.

Mitigation Measure Bio-1 Avoid and minimize potential impacts to special-status plants and wildlife

The following measures will be implemented to minimize the potential impacts to plants and wildlife that may occur within the Proposed Project area:

- a) A qualified biologist will conduct pre-construction surveys no more than two weeks prior to the start of construction for any special-status plants or wildlife that have the potential to occur within the Proposed Project area.
- b) Prior to the start of construction, boundaries of the work site shall be delineated by flagging and staking or other similar method to show the exact location of work. No work shall occur outside the delineated area. If flagging is disturbed or removed, it shall be replaced immediately. Environmentally sensitive areas within the Proposed Project boundaries may be marked with either large flagged stakes connected by cord, or survey laths or wooden stakes prominently flagged with survey ribbon or fencing. All flagging shall be removed upon project completion.
- c) To the extent practicable, construction activities causing disturbances to environmental resources will be minimized, and best efforts shall be used to avoid removing or damaging trees, vegetation, and other habitat.
- d) Proposed Project activities shall be performed during daylight hours.
- e) Prior to beginning work, a Worker Environmental Awareness Program (WEAP) training will be provided by a qualified biologist. All personnel who will be at the work site during construction activities are required to complete the training prior to beginning work at the site. The training will be given at or near the work site. The WEAP training will consist of briefing sessions developed by biologists, archaeologists and others familiar with environmental, cultural and tribal resources at the work site. At a minimum, the environmental portion of the training shall include a description and discussion of the importance of avoiding impacts to special-status wildlife, the general measures that are being implemented to conserve these species as they relate to the Proposed Project and Proposed Project area, and procedures to follow should they encounter wildlife during work. New personnel are required to attend the training prior to beginning work. A refresher WEAP training will be provided if needed to present additional topics pertaining to the above subjects.
- f) A Biological Monitor will be either present or on-call during project activities and will have the authority to halt work activities if concern over environmental resources becomes apparent.
- g) The qualified biologist shall be notified if wildlife is encountered in the project site. Wildlife shall be given the opportunity to escape during construction activities and construction personnel shall avoid harming wildlife within the construction site. Construction personnel shall not move, handle, or harass wildlife on site. If federally or State-listed species are observed on site, all work will halt and the animal will be allowed to leave the Proposed Project area on their own. In the event wildlife is harmed or killed, the qualified biologist shall be notified of the incident. If the specimen is a State or federally listed species, the Department will notify the appropriate agency (i.e. USFWS, CDFW).

- h) The worksite shall be kept clean and trash-free at all times. All trash shall be properly contained, removed from the worksite, and disposed of properly to prevent attracting wildlife.
- i) Construction related vehicles within the Proposed Project area are prohibited from exceeding 15 miles per hour on straight and level roads, or 10 miles per hour in areas with curves or steepness. Speed signs shall be installed along Proposed Project roadways at a maximum of 500 feet apart. Vehicle speeds may be required to be further reduced in the event of reduced visibility conditions including, but not limited to, fog, rain, snow, mud, or twilight or dark conditions.
- j) Construction vehicles and equipment are restricted to existing roads and designated haul routes. No off-road parking or vehicle or equipment staging is allowed in areas not previously delineated.
- k) Motorized equipment will be kept clean and in good working condition and will not be left idling while not in use for more than 5 minutes. All fueling and maintenance of vehicles or other equipment shall occur on established staging areas and at least 50 feet away from any on-site water feature.
- l) Absorbent materials will be available on-site. Any accidental leaks or spills will be immediately cleaned up, and the equipment will not be able to return to the Proposed Project area until it has been repaired sufficiently to prevent further leaks or spills.
- m) Erosion control measures shall be the appropriate type for the site conditions and will not harm or entrap wildlife.

2.1.4.4.1 *Special-Status Plants*

Special-status plants are not likely to be affected by the Proposed Project, because the Proposed Project area does not provide suitable habitat for special-status plant species and no special-status plants have been observed within the Proposed Project area during previous surveys (i.e. for the temporary Lakeside Access Road improvements) in the area.

Implementation of Mitigation Measures Bio-1 and Bio-2 will further reduce the likelihood of impacting special-status plants.

Mitigation Measure Bio-2: Avoid and minimize impacts to special-status plants

To minimize the potential impacts to special-status plants that may occur within the Proposed Project area, the following measures will be implemented:

- a) A qualified biologist will conduct surveys prior to the start of construction for any special-status plant species that are potentially present within the Proposed Project area. If any are identified, they will be flagged and avoided, if feasible.
- b) If special-status plants are identified within the Proposed Project area and cannot be avoided, DWR will coordinate with USFWS/CDFW, and an attempt will be made to transplant the individuals or collect and disperse seeds.

2.1.4.4.2 *Special-Status Wildlife*

The Proposed Project could have potentially adverse effects on special-status wildlife species.

Constant construction disturbance and active human presence have been on-going at and around the area since 2017 and prior. OER construction activities on and at the FCO Spillway radial gates, Spillway bridge crossing, and OER Project facilities, as well as on-going maintenance activities (including driving on access and FCO Spillway roads/across the Spillway bridge, active testing and operation of FCO Spillway radial gates, FCO Spillway structure maintenance and repair, etc.) occur on a continuous basis. In addition, the footprint of the Proposed Project has been actively disturbed from the temporary road improvements, heavy equipment, constant traffic, and construction activities along the existing Lakeside Access Road alignment. Despite these on-going activities, wildlife still utilize the Lakeside Road area, FCO Spillway structure, and adjacent habitat seasonally, and during different phases of their lifecycles.

The Proposed Project includes staging, stockpiling, grading, excavation, controlled blasting, roadwork (including aggregate base, concrete, asphalt paving, as well as traffic safety structures), rock slope protection, v-ditch and culvert installation, and erosion repairs which have been occurring at and around the maintenance road alignment and Proposed Project footprint. These on-going activities have been associated with the OER Project and temporary Lakeside Road improvements between 2017 through 2020, thus disturbance in this area has been occurring continuously. The Proposed Project includes controlled blasting, or use of a hydraulic hammer, and has the potential to disturb wildlife. This activity would likely occur near the beginning of the project and would be limited in time and duration (controlled blasting would likely take three to five days, and drilling would take one to two weeks). This temporary noise is expected to range between 30-50 decibels (dB) with a maximum level of 135 dB. Typical construction noise levels according to the Federal Highway Administration ranges around 80 dB (FTA 2018). The implementation of a noise abatement plan (BMP-4, Section 1.2.4) and blast plan (BMP-8, Section 1.2.4) will minimize noise and blasting.

Implementation of Mitigation Measures Bio-1 and Bio-3 through Bio-7, and BMP-4, Noise Abatement Plan and BMP-8 Blast Plan (Section 1.2.4) will reduce impacts to special-status wildlife to less than significant.

Reptiles

As noted above, the Proposed Project has a low potential to affect western pond turtle, due to lack of suitable aquatic and upland habitat within the Proposed Project area.

In the unlikely event that western pond turtle occurs within the Proposed Project area, implementation of Mitigation Measure Bio-1 will serve to reduce impacts to western pond turtle and other special-status reptile species that may occur in the Proposed Project area to less than significant.

Birds

The implementation of Mitigation Measures Bio-1 and Bio-3 through will minimize potential impacts to special-status bird species that may occur in the Proposed Project area. Since the proposed work is planned to begin at the end of nesting season and has the potential to affect over-wintering and/or foraging habitat for birds, the following measures will be implemented to reduce impacts to Burrowing Owl, Bald Eagle, and Osprey to less than significant.

Mitigation Measure Bio-3: Avoid and minimize impacts to nesting birds

To minimize and avoid the potential impacts to nesting birds (non-raptor) protected by the MBTA and Fish and Game Code Section 3503 that may occur within the Proposed Project area, the following general measures will be implemented:

- a) If construction activities occur between March 15 to August 31, a preconstruction survey for actively nesting birds will be conducted by a qualified biologist a maximum of 72 hours prior to the onset of Proposed Project activities. The qualified biologist(s) must, at a minimum, have experience conducting surveys to identify the specific species and associated habitat that could occur on site.
- b) If any active nests are identified within or adjacent to the Proposed Project area, a buffer will be put in place to ensure that no take (as defined by MBTA), and no take, possession, or needless destruction (as prohibited under the Fish and Game Code) occurs. This buffer will be up to 50 feet, but can be smaller, dependent upon on-site conditions and at the discretion of the qualified biologist.

The Proposed Project has the potential to affect Western Burrowing Owl as individuals have been observed using habitat adjacent or within the Proposed Project area during

the over-wintering (or non-breeding) season, when the Proposed Project will occur. Implementation of Mitigation Measures Bio-1, Bio-3, and Bio-4 will reduce potential impacts to Western Burrowing Owl to less than significant.

Mitigation Measure Bio-4: Avoid and minimize impacts to Western Burrowing Owl

- a) Prior to any ground disturbance related to Proposed Project activities, a qualified biologist will conduct a preconstruction survey in areas identified in the planning surveys as having potential Western Burrowing Owl habitat. The surveys will establish the presence or absence of Western Burrowing Owl, and/or habitat features, and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 2012). A qualified biologist will survey the Proposed Project area and a 250-foot radius from the perimeter of the Proposed Project site to identify burrows and owls. Surveys should take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or Burrowing Owls will be identified and mapped. Surveys will take place no more than 14 days prior to construction. During the breeding season (February 1–August 31), surveys will document whether Burrowing Owls are nesting within or directly adjacent to the Proposed Project area. During the nonbreeding season (September 1–January 31), surveys will document whether Burrowing Owls are using habitat in or directly adjacent to any Proposed Project area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.
- b) If Burrowing Owls are found during the breeding season (February 1 – August 31), all nest sites that could be disturbed by Proposed Project construction during the remainder of the breeding season, or while the nest is occupied by adults or young, will be avoided. Avoidance will include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation, or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 – January 31), the Proposed Project proponent should avoid the owls and the burrows they are using, to the greatest extent feasible.
- c) During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur, will be established around each occupied burrow (nest site). Buffer zones of 160 feet will be established around each burrow being used during the nonbreeding season. The buffers will be delineated by highly visible, temporary construction fencing.
- d) If occupied burrows for Burrowing Owls cannot be avoided, passive relocation will be implemented, following guidance and approval from CDFW. Owls should be excluded from burrows in the immediate impact zone and within a 250-foot buffer zone by installing one-way doors in burrow entrances. These doors should

be in place for 48 hours prior to excavation. The Proposed Project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (CDFW 1995).

Raptors such as Bald Eagle and Osprey could use the area surrounding the Proposed Project area as nesting and/or foraging habitat. These birds are likely acclimated to the on-going construction and human activity around the Proposed Project area and there are adjacent areas that offer similar foraging opportunities. Implementation of Mitigation Measures Bio-1, Bio-3, and Bio-5 will reduce potential impacts to Osprey, and other raptors, to less than significant.

Bald Eagle are unlikely to nest within or adjacent to the Proposed Project area as Bald Eagle nesting territories identified in the Oroville Project Area are not adjacent to the current Proposed Project. Bald Eagle could use the area surrounding the Proposed Project as foraging habitat. The birds are likely habituated to the on-going construction and human activity around the Proposed Project area and there are adjacent areas to the project site that offer similar foraging opportunities. Implementation of Mitigation Measures Bio-1, Bio-3, and Bio-6 will reduce potential impacts to Bald Eagle to less than significant.

Mitigation Measure Bio-5: Avoid and minimize impacts to raptors

- a) If construction activities occur between February 1 and August 31, a preconstruction survey for actively nesting raptors will be conducted within the Proposed Project site and 500-foot buffer surrounding the Proposed Project site by a qualified biologist, a maximum of 72 hours prior to the onset of project activities. The qualified biologist(s) must, at a minimum, have experience conducting surveys to identify the specific species and associated habitat that could occur on site.
- b) If any active raptor nests are identified within or adjacent to the Proposed Project site during the preconstruction survey or during work activities, a buffer will be put in place to avoid disturbance to birds as a result of work activities. This buffer will be up to 250 feet, but can be smaller, dependent on-site conditions, individual bird behavior, and at the discretion of the qualified biologist.
- c) Actively nesting raptors will be monitored by a qualified biologist during construction activities for signs of distress or disturbance as a result of project activities. Should the birds show signs of distress, work will cease at that location until the birds have resumed normal behavior and it is determined by the on-site biologist that work can be resumed.

Mitigation Measure Bio-6: Avoid and minimize impacts to Bald Eagle

- a) If construction activities occur between February 1 and August 31, a USFWS/CDFW- approved biologist will conduct a preconstruction survey two weeks prior to construction activities in areas of suitable habitat.
- b) A brief technical memorandum shall be completed and kept on file with DWR, and reported to CDFW, if Bald Eagle(s) are observed foraging. If an active eagle nest is located within 330 feet, the USFWS and CDFW will be consulted.

Mammals

Individual Yuma myotis (*Myotis sp.*) bats have been observed roosting in and around the Spillway radial gates and have not appeared to be deterred by the on-going construction disturbance. In addition, no maternal roosts have been found during previous surveys and ongoing monitoring.

The implementation of Mitigation Measures Bio-1 and Bio-6 reduce impacts to Myotis bat species to less than significant.

Mitigation Measure Bio-7: Avoid and minimize impacts to Special-Status Bats

To minimize and avoid the potential impacts to special-status bats that may occur within the Proposed Project area, the following general measures will be implemented:

- a) Preconstruction bat surveys and an evaluation of roosting habitat suitability for bats will be conducted by a qualified biologist familiar with the species that could potentially occur within the Proposed Project area. The qualified biologist should, at a minimum, have experience conducting roosting bat surveys and be able to identify the presence of guano and urine stains.
- b) Any identified roosts of special-status bats will be avoided, and a buffer of up to 100 feet will be established based on site conditions and at the discretion of the qualified biologist, to ensure that the roosting bats are not disturbed. If a maternity colony is identified, additional measures may be required, including a larger buffer, to ensure no disturbance. Such additional measures will be determined and conducted by a qualified biologist.

The aforementioned mitigation measures (Mitigation Measures Bio-1 through Bio-7) will be implemented to avoid and minimize impacts to plants and wildlife. Therefore, Proposed Project impacts would be less than significant with mitigation incorporated.

b) Would the project 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 Wildlife or the U.S. Fish and Wildlife Service?

No impact. The Proposed Project does not occur within any riparian habitat, other sensitive natural communities, or critical habitat for special-status species identified in local or regional plans, policies, or regulations, based on review of the CDFW CNDDDB, USFWS iPaC, and CNPS On-line Inventory Rare and Endangered Plants (CDFW 2019, USFWS 2019, CNPS 2019) for habitat, potential habitat, and plant communities. A review of GIS imagery and DWR site surveys confirmed that no such habitat exists. Activities within Lake Oroville are not covered under the Butte Regional Conservation Plan Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP). Therefore, no impact is anticipated as a result of the Proposed Project.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No impact. No State or federally protected wetlands are located within the Proposed Project footprint, thus no wetlands would be affected by the Proposed Project. The Proposed Project is located within a heavily disturbed drawdown zone of Lake Oroville and no marsh, vernal pools, or wetlands are located within the Proposed Project footprint and adjacent area. Therefore, no impact is anticipated as a result of the Proposed Project.

d) Would the project 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?

Less than Significant with Mitigation Incorporated. The Proposed Project would not substantially interfere with the movement of any native or resident fish species, because the activities would be isolated in area and duration, and would not block, alter or degrade waterways that these species use for movement or migrations. No fish migration corridors are present within the Proposed Project area.

Activities may occur near the end of nesting bird season (August), although the majority of work will occur outside of nesting bird season. Proposed Project activities are temporary and will impact a relatively small area of the overall habitat available for Western Burrowing Owl, Bald Eagle, and Osprey. Implementation of Mitigation

Measures Bio-1 and Bio-3 through Bio-6 will be implemented to reduce impacts to less than significant for bird species.

The mule deer wintering range includes the Proposed Project area (Butte County General Plan 2019), however the majority of the Proposed Project area will be inundated and/or will not impede use of the area by migratory deer herds if they are present. In addition, the Proposed Project is located in a heavily used area adjacent to the Oroville Dam and Spillway which is not the best migration corridor. Therefore, Proposed Project activities will not interfere substantially with the movement of mule deer. In turn, it is suspected that the Proposed Project area will not impede the migratory movements of other mammals.

Construction activities will be temporary and Proposed Project activities will impact a relatively small and discrete area of highly disturbed and managed habitat. Implementation of Mitigation Measures Bio-1 through Bio-7 would avoid impacts to species that occur within the Proposed Project footprint. Therefore, Proposed Project impacts would be less than significant with mitigation incorporated.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No impact. In addition to the Proposed Project area having limited biological resources and being located within a heavily disturbed drawdown zone of Lake Oroville, the Proposed Project does not conflict with local policies or ordinances protecting biological resources.

The Proposed Project does not conflict with the 2030 General Plan for Butte County Conservation and Open Space Element- Biological Resources Goals, Policies and Actions (Butte County General Plan 2019) or the 2030 General Plan for the City of Oroville (City of Oroville General Plan 2015). As mentioned, the Proposed Project does not conflict with the Butte Regional Conservation Plan HCP/NCCP (BRCP HCP/NCCP) because the Proposed Project Area is specifically excluded as a covered area. In addition, DWR is coordinating with the Federal Energy Regulatory Commission (FERC) on the Proposed Project to ensure that no biological resource policies or ordinances are affected by this Proposed Project. Therefore, no impact is anticipated as a result of the Proposed Project.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact. The Proposed Project is located within the planned BRCP HCP/NCCP. DWR is not a Permit Applicant under the BRCP HCP/NCCP and its activities are not covered under the HCP/NCCP.

Although the adoption and permitting of the BRCP HCP/NCCP plan has yet to occur (anticipated to be completed in 2020), there are no anticipated conflicts related to the Proposed Project with any provisions of the to-be-adopted HCP/NCCP. In addition, the Proposed Project Area is specifically excluded as a covered area to the BRCP HCP/NCCP. Therefore, no impact is anticipated as a result of the Proposed Project.

2.1.5 CULTURAL RESOURCES

| ENVIRONMENTAL ISSUES | | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than significant Impact | No Impact |
|----------------------|---|--------------------------------|--|------------------------------|--------------------------|
| Would the project: | | | | | |
| a) | Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) | Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) | Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2.1.5.1 Regulatory Setting

Cultural resources include any artifact, object, building, structure, site, shipwreck, area, or place that is historical and/or archaeological in nature. State laws and regulations providing the definitions, protections, and management of cultural resources relevant to the Proposed Project include:

- California Environmental Quality Act, Pub. Resources Code, sections 21083.2 and 21084.1
- California Environmental Quality Act, CEQA Guidelines section 15064.5
- California Public Resources Code sections 5020.1, 5024 et seq. and 5097.98
- California Health and Safety Code sections 7050.5(b) and 7050.5(c)

2.1.5.2 Environmental Setting

The Proposed Project is located on the lake side of the Oroville Dam from the right abutment and extends around the inlet channel toward the Spillway Boat Ramp. Overall, the area has been highly disturbed by the construction of the Oroville Dam, which commenced in 1961, and the erosion caused by the fluctuating lake level. Prior to dam construction, the area was a hilltop overlooking a steep sided river canyon that was used as a transportation corridor. The hills and banks around the dam above the fluctuation zone are covered in annual grasses and star thistle with manzanita, grey pine, and oak. Soils are of the Dunstone-Loafercreek series, which are gravelly loams ranging from 15 to 37-inches deep (USDA 2020). The underlying geology consists of Jurassic volcanic rocks and metavolcanic rocks (CA-DMG 1992).

Human presence in the Proposed Project vicinity dates to the early Holocene (Pre-7000 B.P.) and middle Holocene (7000 to 4000 B.P.), though the archaeology remains poorly understood (Delacorte 2015). By contrast, the record of late Holocene occupation (i.e., approximately the last 4,000 years) is well represented in the region, marked by increasing cultural elaboration and economic intensification. The cultural chronology of the Oroville locality is separated into four cultural complexes: Mesilla (ca. 4000 to 2000 B.P.), Bidwell (ca. 2000 to 1200 B.P.), Sweetwater (ca. 1200 to 500 B.P.), and Oroville (ca. 500 to 150 B.P.). For detailed summaries of the prehistoric archaeology, see Delacorte and Basgall (2006), Kowta (1988), and Ritter (1970).

The historical period begins with a Spanish expedition into the area in 1820-1821, followed by a series of French and English-speaking fur trapping parties in the late 1820s and 1830s. In the mid-1840s, the Mexican government granted two Californios a large tract of land in the Proposed Project vicinity. Coinciding with Mexico ceding California to the U.S., the Gold Rush began in 1848 and resulted in a mass influx of miners and establishment of placer mines and mining settlements throughout the area. Transportation networks, rural settlements, and agriculture continued to develop through the late 19th and early 20th centuries. In 1960, voters approved funding for the Oroville Dam and construction began in 1961. The reservoir was inundated in 1969. For detailed historical summaries of the Proposed Project vicinity, see Herbert et al. (2004), Selverston et al. (2005), and Selverston et al. (2011).

2.1.5.3 Cultural Resources Inventory

The cultural resources investigation carried out for the Proposed Project included a Sacred Lands Files database search with the Native American Heritage Commission (NAHC) (See Section 2.1.18, Tribal Cultural Resources and Appendix B for additional information on NAHC search), background research conducted at the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS), background research utilizing DWR's in-house cultural resources geodatabase and library, and an archaeological survey of the Proposed Project area.

A CHRIS records search of the 15.7-acre Proposed Project area and a 1/4-mile radius was conducted by the NEIC, at Chico State University, Chico in February 2020. DWR's in-house cultural resources geodatabase and library were also reviewed to identify cultural resources and previous survey coverage within the Proposed Project area. In addition to site records and survey reports, review of the DWR library included historic USGS topographic quadrangles, General Land Office plat maps, and aerial photographs. Results indicated three previous archaeological surveys and one built environment survey in the Proposed Project area (Herbert et al. 2004; Selverston et al. 2005; Pierce 2014; Walker and Delacorte 2015).

A new pedestrian survey of the Proposed Project area was completed by a qualified DWR archaeologist on February 12, 2020. Methods included walking transects spaced at 20-meter intervals and visually inspecting the ground surface. All rock outcroppings were individually inspected for evidence of modification. Tracks were recorded using a handheld Garmin 64st GPS unit. As the Proposed Project area is primarily located within the fluctuation zone of the lake, vegetation was limited to light grasses and surface visibility ranged from 90 to 100 percent. The survey covered approximately 14.5 acres of the 15.7-acre Proposed Project area (92%). The remaining 1.2 acres were underwater and not accessible during the current field survey, though it was adequately surveyed during previous investigations. No new resources were revealed by the survey.

The record search and pedestrian survey identified two cultural resources within the Proposed Project area: 1.) Oroville Dam & Spillway, built between 1961 and 1968, and 2.) Oroville Division Historic District, a group of 14 contributing structures built between 1961 and 1974. The Oroville Dam & Spillway and the Oroville Division Historic District were both recommended eligible for the California Register of Historical Resources (CRHR) under Criterion 1 for their association with water development in the State of California and under Criterion 3 because of their significance within the field of hydrological engineering and design (Herbert et al. 2004; Webb and Blosser 2004a; Webb and Blosser 2004b). The Oroville Dam & Spillway is recommended California Register-eligible both individually and as a contributing element to the Oroville Division Historic District.

In compliance with CEQA Guidelines Section 15064.5(b)(3), the Secretary of the Interior's Standards for the Treatment of Historic Properties were applied to the Proposed Project. Proposed Project activities would not alter the shape, size, function, or visual character of the resource. Further, they would not alter integrity of location, design, setting, workmanship, feeling, or association. There would be a very minor alteration to integrity of materials, as eight original concrete wheel curbs and chains would be removed from their original location. To maintain the continuity, aesthetic, and historic character of this feature, the eight wheel curbs and chains will be reused on the Lakeside Access Road to connect it with the remaining wheel curbs and chains on the Dam Crest Road. There are thousands of concrete wheel curbs and chains lining the Dam Crest Road and Parking Lot and, given the massive scale of the Oroville Dam & Spillway, the removal of eight curbs from their original location will not affect the overall integrity or the visual character of the resource.

The Oroville Dam & Spillway would continue to meet CRHR criteria both individually and as part of the proposed Oroville Division Historic District. Therefore, the Proposed Project is not anticipated to result in a substantial adverse change in the significance of the Oroville Dam & Spillway. Of the Oroville Division Historic District's 14 contributing elements, the Oroville Dam & Spillway is the only one located within the Proposed Project area. As the Proposed Project would not result in a substantial adverse change in the significance of the Oroville Dam & Spillway, the Proposed Project would also not result in a substantial adverse change in the significance of the Oroville Division Historic District.

No archaeological resources were identified within the Proposed Project area. However, several resources were identified within a quarter mile of the Proposed Project area. Historic-era resources located near the Proposed Project area include two roads, two fence lines, and four prospect pits. Nearby prehistoric resources include two bedrock milling stations and one small habitation site. As these resources are located outside of the Proposed Project area, they would not be affected by Proposed Project activities.

2.1.5.4 DISCUSSION

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less than Significant with Mitigation Incorporated. Two historical resources were identified within the Proposed Project area: 1.) Oroville Dam & Spillway and 2.) Oroville Division Historic District. The impact on these historical built environment resources would be potentially significant. Based on the analysis provided above, the current Proposed Project design follows the Secretary of the Interior's Standards for the Treatment of Historic Properties and the Proposed Project will not result in a substantial

adverse change in the significance of either historical resource. To ensure compliance with Section 15064.5(b)(3), Mitigation Measure Cul-1 will be implemented.

Mitigation Measure Cul-1: Adherence to Secretary of the Interior's Standards for the Treatment of Historic Properties

DWR shall utilize the Secretary of the Interior's Standards for the Treatment of Historic Properties to the maximum extent possible to ensure the historical significance of resources is not impaired. During Project implementation, application of the standards shall be overseen by an individual meeting the Secretary of the Interior's Professional Qualifications for Architectural History or History.

Although no buried resources were identified, previously unknown buried resources could be discovered located beneath the ground surface during construction activities. The impact on previously unknown resources would be potentially significant. To address the unanticipated discovery of buried resources, Mitigation Measure Cul-2 will be implemented.

Mitigation Measure Cul-2: Worker Awareness and Response for Undiscovered Historical Resources, Archaeological Resources, and Tribal Cultural Resources

Prior to the start of construction, DWR shall provide a worker environmental awareness training to the construction contractor and DWR inspectors regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying DWR archaeologists.

If any evidence of prehistoric, historic, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, etc.) is observed, all work within 50 feet of the find shall cease immediately. An archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeology shall be consulted to assess the significance of the cultural find and recommend appropriate measure for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery. If the resource may be of Native American origin, DWR shall consult with the culturally affiliated Tribes to whom the resource could have importance. For tribal cultural resources, the identification and implementation of avoidance or minimization measures would be conducted in consultation with the culturally affiliated Tribes.

Pursuant to Section 15064.5(b)(3), implementation of Mitigation Measure Cul-1 will ensure that the Proposed Project utilizes the Secretary of the Interior's Standards for the Treatment of Historic Properties and will not result in a substantial adverse change in the significance of historical built environment resources. Implementation of Mitigation Measure Cul-2 would reduce potential impacts to previously undiscovered resources by requiring worker awareness training and that steps be taken in the event that resources are encountered during Proposed Project construction. With implementation of Mitigation Measures Cul-1 and Cul-2, this impact would be less than significant with mitigation incorporated.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant with Mitigation Incorporated. No known archaeological resources were identified within the Proposed Project area. Therefore, no impact would occur to previously identified archaeological resources in the Proposed Project area. Ground-disturbing activities could uncover resources not previously identified and cause a substantial change in the significance of an undiscovered unique archaeological resource as defined in Section 15064.5. The impact on previously unknown resources would be potentially significant. To address the unanticipated discovery of archaeological resources, Mitigation Measure Cul-2 is prescribed.

Implementation of Mitigation Measure Cul-2 would reduce potential impacts to previously undiscovered archaeological resources through worker awareness training and mandating that steps be taken in the event that archaeological resources are discovered during Proposed Project construction. With implementation of Mitigation Measure Cul-2, this impact would be less than significant with mitigation incorporated.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant with Mitigation Incorporated. Based on background research and pedestrian survey, there is no evidence to suggest that any prehistoric or historic-era marked or unmarked human interments are present within or in the immediate vicinity of the Proposed Project area. However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, it is possible that unmarked, previously unknown Native American or other graves could be present within the Proposed Project area and could be uncovered during project construction activities. The impact on undiscovered or unrecorded human remains would be potentially significant. To address the unanticipated discovery of previously unknown Native American or other human remains, Mitigation Measure Cul-3 will be implemented.

Mitigation Measure Cul-3: Avoidance of Potential Impacts to Undiscovered Burials

If human remains are discovered during any project activities, all ground disturbing activities within 100 feet of the remains shall be halted immediately and a qualified archaeologist shall inspect the location. DWR shall notify the Butte County coroner and the NAHC immediately, as required by Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If remains are determined to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. DWR shall consult with the Most Likely Descendant (MLD), if any, identified by the NAHC. Following the coroner's and NAHC's findings, DWR and the MLD(s) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Implementation of Mitigation Measure Cul-3 would reduce the impacts associated with human remains to a less-than-significant level because it would require the performance of professionally accepted and legally-compliant procedures in the event of discovery of human remains. Therefore, Proposed Project impacts would be less than significant with mitigation incorporated.

2.1.6 ENERGY

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------|--|------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

☐☐☐☒

2.1.6.1 Environmental Setting

The Butte County General Plan 2030 Conservation and Open Space Element discusses energy production, conservation, and the patterns of consumption with energy's growing importance. Due to energy price fluctuations over the last 3 decades, and blackouts, there is a larger interest in energy conservation. Butte County has been moving toward alternate forms of energy, including the addition of County fleet vehicles running on alternative fuels. Thus, the Butte County General Plan encourages the use of renewable fuel sources and the implementation of the Low Carbon Fuel Standard.

The Proposed Project will not inefficiently use energy during construction, which conforms with the Butte County General Plan's conservation goals.

The Proposed Project would consume energy in the form of gasoline and diesel, used during construction for heavy-duty equipment, haul trucks, and construction personnel vehicles (passenger trucks and cars). There is no operational consumption of energy associated with access road improvements, as the Proposed Project involves an alternate route to an existing public boat ramp and would not increase the use of the public facility. Additionally, there is no operational consumption of energy associated with the Spillway Boat Ramp erosion repair.

2.1.6.2 Discussion

- a) **Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

No impact. The Proposed Project would only consume energy via fuel (gasoline and diesel), from the use of construction equipment and personnel vehicles and would be temporary in nature. No other energy sources would be unnecessarily or inefficiently consumed or wasted during the construction of the Proposed Project. Implementation of BMP-1, Air Quality Control Plan and BMP-6, Greenhouse Gas Emissions (Section 1.2.4) would ensure that equipment is kept in good working order, and idling time is minimized to reduce the unnecessary consumption of energy resources. The Proposed Project involves an erosion repair and updates to an existing access road to allow access to an existing facility (Spillway Boat Ramp)

and would not result in an increased consumption of energy during operation. Therefore, no impact is anticipated as a result of the Proposed Project.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Proposed Project would not involve the construction of a facility or change in land use that would require the use of energy from existing energy infrastructure. Construction would be minimal and temporary in nature and would not require the construction of a new energy generating facility, as construction would not require the use of energy in large quantities. Therefore, the Proposed Project would not obstruct or conflict with any State or local plans regarding other renewable energy or energy efficiency. Therefore, no impact is anticipated as a result of the Proposed Project.

2.1.7 GEOLOGY AND SOILS

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------|--|-------------------------------------|--------------------------|
| 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.) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.7.1 Environmental Setting

The Proposed Project is located along the embankment of Lake Oroville within the unvegetated reservoir fluctuation zone, between elevations of 640 feet to 900 feet and is mostly composed of undivided Mesozoic volcanic and metavolcanic rocks from the Jurassic age (CDC 2010a). These rocks were originally located to the west in a volcanic island arc, then moved westward due to plate tectonic processes and were accreted

onto the North American continent. Based on available soil survey data, the surface soils likely consist of fine loam soils weathered from metavolcanics with Ultic Haploxeralfs (USDA 2019).

The Proposed Project is located in northeastern California, an area that has historically experienced relatively low seismic activity. Overall, the Sierra Nevada and Central Valley move collectively as an independent block, the eastern margin of which is formed by faults of the Sierra Nevada Fault Zone. An “active” fault is one that shows displacement within the last 11,000 years and, therefore, is considered more likely to generate a future earthquake than a fault that shows no sign of recent rupture. The California Geologic Survey has mapped various active and inactive faults in the region. The Foothills Fault System includes several active faults surrounding the Proposed Project area. The nearest mapped Alquist-Priolo fault-rupture hazard zone near the Proposed Project is the Cleveland Hill fault (movement within the last 35,000 years). This approximately 5.5-mile-long fault is located about 3.8 miles southeast of Oroville Dam (CDC, 2010b). The Cleveland Hill fault ruptured on August 1, 1975, causing a 5.7 Richter magnitude earthquake felt in the City of Oroville. Other historic seismic events in the Proposed Project area include a magnitude 4.6 earthquake that occurred near Chico on May 24, 1966, and a magnitude 5.7 earthquake located about 20 miles east of Chico that occurred on February 8, 1940. Except for these seismic events, most of the significant Quaternary and historic regional seismic activity is concentrated on faults located more than 60 miles to the north, east, and southeast of the Proposed Project area. Conditionally active faults (movement within the last 35,000–1.6 million years) include the Oregon Gulch fault, which passes through Lake Oroville, and the Paynes Peak and Prairie Creek fault zones, located to the south of Lake Oroville. Investigations into the Oregon Gulch fault have shown no evidence of Quaternary displacement. Evidence of small-scale, Cenozoic-era fault movements on the Paynes Peak and Prairie Creek fault zones have been identified.

There is a generally low to moderate liquefaction potential at and around the Proposed Project area. While not located in a highly active seismic zone, earthquake-induced damage resulting from ground shaking, ground surface rupture, liquefaction, lateral spreading, and earthquake-induced water waves are possible. Butte County is not generally subject to strong seismic ground shaking (CDC 2010b). This suggests that the ground shaking hazard potential in the Proposed Project area is low. The dominant metavolcanic rocks in the Proposed Project area (U.S. Department of Agriculture 2019) are not conducive to liquefaction or seismic-related ground failure.

DWR has mapped the landslides within the Lake Oroville area and rated them as active, inactive, or ancient (CSP 2004). Large ancient landslides are common around Lake Oroville, mostly in metamorphic rocks. Lateral spreading typically results when ground

shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Areas in the region that are susceptible to this hazard are located along creeks or open water bodies, or within the nearby foothills.

2.1.7.2 Discussion

a) Would the project 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.)*

Less Than Significant Impact. The Proposed Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (CDC 2019a). The nearest Alquist-Priolo Earthquake Fault Zone is the Cleveland Hill Fault, approximately 3.8 miles to the southeast of the Proposed Project site in the Bangor quadrangle. Project activities similar to the Proposed Project are not known to cause ruptures of earthquake faults. Therefore, impacts would be less than significant.

ii) Strong seismic ground shaking?

Less Than Significant Impact. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake and is normally the major cause of damage in seismic events. The extent of ground shaking associated with an earthquake depends on the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. Although the Proposed Project site is located in a seismically active region that has historically been affected by strong seismic ground shaking, the only active fault in the region that could cause ground shaking at the Proposed Project site is the Cleveland Hill Fault, which is located 3.8 miles to the southeast of the Proposed Project site. The most recent seismic event was the 1975 Oroville Earthquake, which occurred along the Cleveland Hill Fault and reached a Richter magnitude of 5.7 (Toppozada and Morrison, Jr. 1982). The Proposed Project may cause ground shaking, especially from controlled blasting/rock excavation; however, this shaking is unlikely to cause strong seismic ground shaking. Implementation of BMP-8, Blasting Plan (Section 1.2.4), will minimize the potential impacts of controlled blasting. Therefore, impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Soils most susceptible to liquefaction are loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts and gravels with poor drainage, or those capped by or containing seams of impermeable sediment. The Proposed Project is not located in a region designated as a liquefaction zone (CDC 2019b). The Oroville Earthquake activity in 1975 on the Cleveland Hill Fault resulted in no liquefaction. Soils most susceptible to liquefaction are loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts and gravels with poor drainage, or those capped by or containing seams of impermeable sediment. These soil types are not found within the Proposed Project area. Therefore, impacts would be less than significant.

iv) Landslides?

Less Than Significant Impact. Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes in areas with significant ground slopes. While a landslide was recorded in 2019 on the north side of Lake Oroville, approximately 6 miles north of the Proposed Project site, this landslide was not earthquake induced and the Proposed Project is not located in a region where earthquake induced landslides have historically occurred (CDC 2020). Therefore, impacts would be less than significant.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Ground-disturbing activities could loosen soils and make them susceptible to erosion. During construction activities, soil would be exposed and there would be an increased potential for soil erosion compared to the existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. Soil stabilization and runoff control measures have been incorporated into the Proposed Project design, including compaction of all fill material, installation of rock slope protection on fill slopes, installation of v-ditches and culverts to control water runoff, will minimize the potential for soil erosion or loss of topsoil. Additionally, implementation of BMP-2: Storm Water Pollution Prevention Plan (SWPPP) ensures a SWPPP will be obtained prior to Proposed Project activities to further control erosion and water runoff. Therefore, impacts would be less than significant.

c) Would the project 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?

Less Than Significant Impact. The Proposed Project is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Proposed Project (USDA 2019). The potential for lateral spreading in the Proposed Project site is

generally low due to the shallow well drained soils underlain by rock. The Proposed Project area is not prone to subsidence or collapse. In addition, implementation of BMP-8: Potential Blasting Damage, which discontinues the use of explosives if blasting may damage stability of the slope, will further decrease potential impacts. Therefore, impacts would be less than significant.

d) Would the project 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?

No impact. The Proposed Project does not involve the construction of a building. Therefore, no impact is anticipated as a result of the Proposed Project.

e) Would the project 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?

No Impact. The Proposed Project does not involve the installation of a septic tank or alternative wastewater disposal system. Therefore, no impact is anticipated as a result of the Proposed Project.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. The volcanic rocks within the Proposed Project area are not expected to contain fossils. The Proposed Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Therefore, no impact is anticipated as a result of the Proposed Project.

2.1.8 GREENHOUSE GAS EMISSIONS

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------|--|-------------------------------------|--------------------------|
| Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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?

☐
☐
☒
☐

2.1.8.1 Environmental Setting

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 greenhouse gas (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. The GGERP (DWR 2012) 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" to meet the requirements 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, "later 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:

- a. Analysis of GHG emissions from construction of the Proposed Project,

- b. Determination that the construction emissions from the Proposed Project do not exceed the levels of construction emissions analyzed in the GGERP,
- c. Incorporation of DWR's project level GHG emissions reduction strategies into the design of the Proposed Project,
- d. Determination that the Proposed Project does not conflict with DWR's ability to implement any of the "Specific Action" GHG emissions reduction measures identified in the GGERP, and
- e. Determination that the Proposed 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, a GGERP Consistency Determination Checklist is attached as Appendix C documenting that the Proposed Project has met each of the required elements.

2.1.8.2 Discussion

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant impact. GHG emissions for the Proposed Project have been calculated to be 1,135.8 mtCO₂e (Appendix C). Based on the analysis provided in the GGERP and the demonstration that the Proposed Project is consistent with the GGERP (Appendix C, GGERP Consistency Determination Checklist), DWR as the lead agency has determined that the Proposed Project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs is less than cumulatively considerable; therefore, impacts due to Proposed Project activities would be less than significant.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than significant impact. CEQA Guidelines require environmental analyses to evaluate both the level of GHG emissions associated with construction and operation of a proposed project and the proposed project's consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

DWR developed the GGERP to guide its efforts in reducing GHG emissions (DWR 2012). The GHG emissions reduction measures proposed in the GGERP were developed to reduce emissions of GHGs in California as directed by Executive Order (EO) S-3-05 and AB 32. DWR has established the following GHG Emissions Reduction Goals:

- Reduce GHG emissions from DWR activities by 50% below 1990 levels by 2020; and
- Reduce GHG emissions from DWR activities by 80% below 1990 levels by 2050.

Pre-construction and Final Design BMPs from the GGERP are designed to ensure that individual projects are evaluated, and their unique characteristics are taken into consideration when determining if specific equipment, procedures, or material requirements are feasible and efficacious for reducing GHG emissions from the Proposed Project. BMP-6 (Section 1.2.4) lists the GGERP BMPs. All BMP's are potentially applicable to the Proposed Project. With the implementation of the GGERP BMP's, impacts due to Proposed Project activities would be less than significant.

2.1.9 HAZARDS AND HAZARDOUS MATERIALS

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|-------------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
-

2.1.9.1 Environmental Setting

The Lakeside Access Road and the erosion repair Proposed Project footprints are situated within the unvegetated reservoir fluctuation zone of Lake Oroville in an area designated as public land and as a high fire hazard zone. The city limits of Oroville lie approximately two miles southwest of the Proposed Project area and the unincorporated community of Kelly Ridge is approximately one mile southeast.

The Proposed Project location is not listed as a hazardous materials cleanup site, pursuant to Government Code Section 65962.5(a). Searches on the State Water Resources Control Board GeoTracker and the California Department of Toxic

Substances Control EnviroStor online databases on January 15, 2020 (SWRCB 2020, DTSC 2020), revealed no additional sites of potential hazardous material concerns within a 1-mile radius.

2.1.9.2 Discussion

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant impact. Proposed construction activities would involve the routine transport, use, or disposal of hazardous substances such as diesel fuels, gasoline, hydraulic fluids, and lubricants. However, all hazardous material use would be required to comply with all applicable local, state, and federal standards associated with the handling, storage, and disposal of hazardous materials. Use of hazardous materials in accordance with applicable standards ensures that any exposure of the public or the environment to hazard materials would result in a less than significant impact.

A Blasting Plan will be implemented (BMP-8, Section 1.2.4). The plans shall include methods for control of noise and dust, as well as vibration monitoring during blasting work. Implementation of BMP-8 would result in a less than significant impact.

b) Would the project 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?

Less than significant impact. There is a possibility of accidental release of hazardous materials routinely used during construction activities. The implementation of Storm Water Pollution Prevention Plan (BMP-2, Section 1.2.4), will minimize the potential for, and effects from, spills of hazardous, toxic, and petroleum substances during construction activities, resulting in a less than significant impact.

A Spill Prevention Control and Countermeasure Plan (SPCCP), including drilling fluids and explosives (BMP-7, Section 1.2.4), describing the methods used to prevent, contain and immediately clean up spills of drilling fluids or explosives, will be implemented during blasting activities, resulting in a less than significant impact.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No impact. No schools exist within one-quarter mile of the Proposed Project site and no new schools are being proposed for development in that area. Therefore, the Proposed Project would have no impact.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. The Proposed Project site is not located on or near a hazardous waste or border property as defined by the Department of Toxic Substances Control (DTSC) Under Government Code Section 65962.5(a). Therefore, the Proposed Project would have no impact.

e) Would the project, 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?

No impact. There are no people residing within the Proposed Project area. The Proposed Project is not located within an airport land-use plan, within two miles of a public-use airport, or in the vicinity of a private airstrip. The nearest public airport or public-use airport is the Oroville Municipal Airport, which is approximately eight miles southwest of the Proposed Project site. The Proposed Project will not result in an airport-related safety hazard for people working in the Proposed Project area. Therefore, the Proposed Project would have no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No impact. The Proposed Project is not located within any major thoroughfares that may be used as an evacuation route, and it does not contain any essential facilities for emergency response. The Proposed Project is located within Lake Oroville's fluctuation zone and would not impede the function of this zone. Therefore, there would be no impact.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Less than significant impact. The Proposed Project is in an area designated by the California Department of Forestry and Fire Protection (CAL FIRE) as high fire hazard severity zone (CAL FIRE 2007). No residences or structures exist within the Proposed Project footprint, but workers constructing the Proposed Project would temporarily be exposed to the risk of wildfire that exists for the area. The Proposed Project is located within the State Responsibility Area (SRA) where CAL FIRE works in collaboration with Butte County Fire Divisions to provide wildfire protection. The Butte County Community Wildfire Protection Plan (CWPP) outlines fire management strategies (Butte County 2015). Implementation of this plan reduces exposure to workers during construction. In addition, BMP-3: Fire Prevention and Control Plan (Section 1.2.4) includes fire prevention plan details, including smoking policies, procedures and limitations for work involving open flames or sparks, description and location of firefighting equipment, and firefighting and evacuation plans. Implementation of BMP-3 would result in a less than significant impact.

2.1.10 HYDROLOGY AND WATER QUALITY

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------|--|-------------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|-------------------------------------|-------------------------------------|
| 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 result in: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| i) result in a substantial erosion or siltation on- or off-site; | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.10.1 Environmental Setting

The Proposed Project is located at Lake Oroville, a 3.54-million-acre-foot (maf) reservoir located 4 miles east of the City of Oroville is about 130 miles northeast of San Francisco and is located in Butte County, California. The West Branch, North Fork, South Fork, and Middle Fork Feather Rivers are the primary rivers that form the reservoir at Lake Oroville. Water from Lake Oroville is released from Hyatt Power Plant into the Thermalito Diversion Pool, downstream through the River Valve Outlet, or over the FCO Spillway into the Feather River. A fish barrier dam is located approximately 4.5 miles downstream of the Oroville Dam on the Feather River.

The Proposed Project is within the lakebed of Lake Oroville in the unvegetated reservoir fluctuation zone, which ranges from 640 feet to 900 feet elevation and connects to existing infrastructure/roads. All Proposed Project activities will occur when the Lake Oroville water level is below the Proposed Project footprint.

2.1.10.2 Discussion

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than significant impact. The Proposed Project involves ground disturbance within the lakebed, below the OHWM, which has the potential to violate water quality standards. Ground disturbing activities include excavation of rock and soil, blasting of bedrock, grading, and sorting of excavated materials. A SWPPP will be obtained prior to start of construction (BMP-2, Section 1.2.4). The SWPPP will include erosion and sediment control measures that will be implemented during construction to ensure Proposed Project activities do not result in erosion and violate any water quality standards, waste discharge requirements, or substantially degrade surface or groundwater quality. Additionally, all Proposed Project activities will be conducted in dry conditions when lake levels are below the Proposed Project footprint. Therefore, impacts due to the Proposed Project activities would be less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No impact. The Proposed Project footprint is located within the lakebed of Lake Oroville. While the Proposed Project includes soil and rock excavations, excavations would be no greater than 20 feet in depth, and is not expected to reach the groundwater table. Additionally, Proposed Project activities would not decrease groundwater supplies or interfere substantially with groundwater recharge, as no

water would be pumped from any on- or off-site groundwater sources. All ground disturbance will be backfilled and graded to design specifications. Therefore, there would be no impact on groundwater supplies, recharge, or sustainable groundwater management.

c) Would the project 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 result in:

i) substantial erosion or siltation on- or off-site

Less than significant impact. While ground disturbance activities have the potential to result in erosion or siltation, BMP-2, SWPPP measures will be implemented to control erosion or siltation during Proposed Project activities (Section 1.2.4). Disturbed areas within the permanent road alignment will be graded and compacted, and fill slopes will be lined with rock slope protection to further reduce erosion. The erosion repair at the Spillway Boat Ramp will be lined with rock to prevent any further erosion and to better aid in stormwater runoff. All temporarily disturbed areas will be returned to pre-project contours and conditions, and temporarily disturbed areas above the OHWM will be hydroseeded and stabilized to reduce potential for erosion of upland areas. Therefore, impacts would be less than significant.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite

Less than significant impact. The Proposed Project has been designed to facilitate surface runoff. A roadside v-ditch has been designed as part of the permanent road alignment to collect water drainage and carry flows to the inlet channel through a series of four culverts crossing the road, where the flows can be dispersed back into sheet flow just below the inlet channel. The Spillway Boat Ramp erosion repair and v-ditch cleanout at the outfall channel drainage will further improve surface runoff at the Proposed Project site. Lake Oroville itself is a flood control facility, and the Proposed Project has been designed in a way so as not to impact the functionality of that facility. Therefore, impacts would be less than significant.

iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

Less than significant impact. The Proposed Project involves improving an existing access road, and repairing erosion damage at an outfall channel drainage and associated v-ditch. Proposed Project activities would not create or contribute to runoff water. As stated in section c)ii) above, the road improvements and erosion repair have been designed in a way to improve drainage of water runoff into an existing flood control facility (Lake Oroville). Additionally, BMP-2, SWPPP control measures will be implemented to prevent pollutants from being transported to receiving waters during construction activities (Section 1.2.4). Therefore, impacts would be less than significant.

iv) impede or redirect flood flows

Less than significant impact. A roadside v-ditch has been designed as part of the Proposed Project to collect water drainage and carry flows to the FCO Spillway inlet channel. Water would then cross under the road through a series of four culverts, where the flows would disperse back into sheet flow just below the inlet channel and back into the Lake Oroville. The Spillway Boat Ramp erosion repair and v-ditch cleanout at the outfall channel drainage will further improve surface runoff at the Proposed Project site. Water flow and drainage would improve as a result of the Proposed Project. Lake Oroville itself is a flood control facility, and the Proposed Project has been designed to not adversely impact the functionality of that facility. Therefore, impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than significant impact. The Proposed Project footprint is within the lakebed of Lake Oroville, immediately adjacent to the Lake Oroville Dam, FCO Spillway, and Emergency Spillway. As part of the Oroville Emergency Response and Recovery Project, these flood control facilities have been restored and improved to ensure public safety, and the Proposed Project has been designed to not impact the functionality of these flood control facilities. Additionally, all Proposed Project activities will occur in dry conditions when the lake levels are below the Proposed Project footprint. Furthermore, all Proposed Project activities located below the OHWM will occur when water level is below the Proposed Project footprint. Concrete and other materials used for road improvements will have adequate time to dry prior to seasonal inundation, thus pollutants released during curing will not be a risk. While Butte County does have the potential for seiches and tsunamis due to landslides and stronger earthquakes (Butte County 2013), this risk is not increased from Proposed Project activities. Therefore, impacts would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No impact. The Proposed Project would not conflict with or obstruct implementation of a water quality control plan, including the Bay-Delta Water Quality Control Plan (SWRCB 2018), due to the limited scope and duration of the Proposed Project. Additionally, DWR will obtain and comply with a Clean Water Act Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board to ensure compliance with all applicable water quality standards, limitations, and restrictions. The Proposed Project does not include activities that would require the use of groundwater, nor would it impact groundwater, and therefore would not conflict with a sustainable groundwater management plan. Therefore, there would be no impact.

2.1.11 LAND USE AND PLANNING

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.11.1 Environmental Setting

The Proposed Project is located within the unvegetated drawdown zone of Lake Oroville, and is surrounded by Lake Oroville, flood control facilities, the Spillway Boat Ramp and parking area, and forest landscape.

The Proposed Project area is located on a parcel zoned as “Water” and “Heavy Industrial” by Butte County (Butte County 2015). Permitted uses for Heavy Industrial include operations that necessitate the storage of large volumes of hazardous or unsightly materials, or which produce dust, smoke, fumes, odors, or noise at levels that would affect surrounding uses.

The Butte County General Plan 2030 Land Use Element Map has designated the Proposed Project area as both water and “Public/Quasi-Public” land.

2.1.11.2 Discussion

a) Would the project physically divide an established community?

No impact. The Proposed Project area is located on State-owned property. The Proposed Project would not alter the existing use of the site and would not divide an established community. Therefore, no impact is anticipated as a result of the Proposed Project.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No impact. The Proposed Project area is owned and maintained by public agencies for public use. Implementation of the Proposed Project would not alter or change the existing land use and thus would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, no impact is anticipated as a result of the Proposed Project.

2.1.12 MINERAL RESOURCES

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

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2.1.12.1 Environmental Setting

The Butte County General Plan contains goals and policies to protect mineral resources within the county. The Proposed Project site is not located in or around any designated land area that is categorized as a mineral resource zone (MRZ), as mapped in the General Plan (Butte County 2013). The California Department of Conservation, California Geological Survey (CGS) also conducts Mineral Land Classification surveys, which designate land areas, such as MRZs or aggregate resource zones (California Department of Conservation 2018). The CGS maps aggregate availability in the State, and no aggregate resource zones have been identified on or within the vicinity of the Proposed Project (California Department of Conservation 2015).

2.1.12.2 Discussion

- a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No impact. No known mineral resource recovery sites or aggregate resource zones are located within the vicinity of the Proposed Project. While Proposed Project activities include removing material for road improvements and erosion repair, the removed material will be used as backfill for the updated road, fill for minor grading of designated staging areas, or temporarily stockpiled within the designated staging areas. The Proposed Project will not result in a loss of availability of mineral resources. Additionally, the Proposed Project site has not been designated by the CGS as an area of known mineral resources, and implementation of the Proposed Project would have no impact on mineral resources (California Department of Conservation 2015).

- b) **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No impact. There are no mineral resource recovery sites within or near the Proposed Project area identified in the Butte County General Plan (Butte County 2013). The Proposed Project would not result in impacts related to the loss of availability of a

locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, the Proposed Project would have no impact to mineral resource recovery zones.

2.1.13 NOISE

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------|--|-------------------------------------|-------------------------------------|
| 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 in other applicable local, state, or federal standards? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.13.1 Environmental Setting

There are several significant noise sources in Butte County. Mobile noise sources are those related to transportation. The major mobile noise sources in Butte County are

roadway traffic, railroads, and airports. By far the most prevalent noise source is roadway traffic, which is a constant source of noise compared to the intermittent sounds from the county's railroads and airports.

Stationary noise sources are typically associated with commercial, industrial and public facilities. Significant stationary noise sources in unincorporated Butte County are the Neal Road Recycling and Waste Facility, solid waste transfer stations, aggregate mining operation, general service commercial and light industrial uses, recreational uses, and parks and school playing fields (Butte County 2012).

Controlled blasting creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Ground vibration can result in effects ranging from annoyance of people to damaged structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. Vibration amplitudes decrease with increasing distance.

As seismic waves travel outward from a controlled blast, they excite the particles of rock and soil throughout which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten -thousandths to a few thousandths of an inch. The rate of velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as Peak Particle Velocity (PPV).

2.1.13.2 Discussion

a) Would the project result in 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 in other applicable local, state, or federal standards?

Less than significant impact. Noise is defined as unwanted sound. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Most of the sounds that are heard in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each sound frequency differing in sound level. The intensities of each frequency combine to generate a sound. Noise is typically generated by transportation, specific land uses, and ongoing human activity.

The Butte County Municipal Code (Section 41A-7; Ord. No. 4053, § 1, 3-26-13) established exterior noise thresholds for sensitive receptors (Table 5) and states it is unlawful to create any noise which causes the noise levels on an affected property to exceed these standards (Butte County 2020). Noise sources associated with construction, repair, demolition, paving, or grading of any real property or public works

project located within 1,000 feet of residential uses are exempt from these standards if they do not take place between sunset to sunrise on weekdays and non-holidays and reduced hours on weekends or holidays. Although the Proposed Project is a construction project greater than 1,000 feet away from sensitive receptors and is thus exempt from these standards, they are a useful tool to evaluate potential noise impacts due to Proposed Project activities.

Table 5. Exterior noise standards for all sensitive receptors within Butte County

| | Daytime (7 a.m. to 7 p.m.) | | Evening (7 p.m. to 10 p.m.) | | Nighttime (10 p.m. to 7 a.m.) | |
|-----------------------------|-----------------------------------|-----------|------------------------------------|-----------|--------------------------------------|-----------|
| Receptor | Urban | Non-Urban | Urban | Non-Urban | Urban | Non-urban |
| Hourly Average (L_{eq}) | 55 | 50 | 50 | 45 | 45 | 40 |
| Maximum (L_{max}) | 70 | 60 | 60 | 55 | 55 | 50 |

Source: Butte County Code of Ordinances, Chapter 41A, Noise Control. March 2020

Some areas of the proposed road alignment consist of rock and will not be able to be brought to the specific grade using excavators, dozers, or motor graders. These areas will be excavated via controlled blasting or hydraulic breaker. Drill-blast excavation of rock will be controlled to minimize effects on surrounding structures. Explosive charges will be distributed along the rocky areas in drilled holes to minimize acute noise from the blasting. Typical dBA levels are expected to range between 30 and 50 dBA, with a maximum level of 135 dBA.

The closest sensitive receptor is a small residential community over one mile (or more than 5,280 feet) to the east of the Proposed Project site. Table 6 illustrates noise emissions levels of construction equipment at 50 feet from the source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source (Cowan 1994). At one mile from a point source, the noise levels in Table 6 would decrease by more than 36 decibels at the closest sensitive receptor. It can be reasonably assumed that at this greater distance, the noise emissions levels would be less, and fall below the noise thresholds established by Butte County (Table 5).

Table 6 Construction Equipment Noise Emission Levels

| Equipment | Typical Noise Level 50 ft from Source, dBA |
|------------------|---|
| Air Compressor | 80 |
| Backhoe | 80 |
| Compactor | 82 |

| Equipment | Typical Noise Level 50 ft from Source, dBA |
|---|---|
| Concrete Mixer | 85 |
| Concrete Pump | 82 |
| Concrete Vibrator | 76 |
| Crane, Derrick | 88 |
| Crane, Mobile | 83 |
| Dozer | 85 |
| Generator | 82 |
| Grader | 85 |
| Loader | 80 |
| Paver | 85 |
| Pump | 77 |
| Roller | 85 |
| Saw | 76 |
| Scraper | 85 |
| Truck | 84 |
| Source: Federal Transit Administration. <i>Transit Noise and Vibration Assessment Manual, 2018.</i> | |

Implementation of BMPs outlined in Section 1.2.4 would further reduce noise-related impacts due to construction, including BMP-4, which requires the development of a noise abatement plan, BMP-8, which requires the development of a Blast Plan, including methods for controlling noise during controlled blasting and preventing controlled blasting during nights, weekends and State Holidays. Therefore, impacts would be less than significant.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact. Proposed Project construction activities can result in varying degrees of temporary groundborne vibration and noise, depending on the equipment used and the operations involved. Vibration and noise generated by construction equipment and blasting can be a nuisance to the public and cause damage to structures, but it diminishes in magnitude with increased distance from the source (FTA 2018). The following discussion analyzes potential impacts of vibration generated by Proposed Project activities; potential noise impacts are discussed in detail in section (a) above.

The Federal Transit Administration (FTA) reports vibration velocity data from typical heavy construction equipment operations; vibration caused by equipment that would be

used during Proposed Project construction ranges from 0.003 to 0.21 in/sec PPV at 25 feet from the source activity (Table 7) (FTA 2018).

Table 7. Vibration Source Levels for Construction Equipment Used in the Proposed Project

| Equipment | PPV at 25 ft (in/sec) | Approximate Lv * at 25 ft |
|---|------------------------------|----------------------------------|
| Vibratory Roller | 0.21 | 94 |
| Hoe Ram | 0.089 | 87 |
| Large bulldozer | 0.089 | 87 |
| Caisson drilling | 0.089 | 87 |
| Loaded trucks | 0.076 | 86 |
| Jackhammer | 0.035 | 79 |
| Small bulldozer | 0.003 | 58 |
| Source: Federal Transit Administration. <i>Transit Noise and Vibration Assessment Manual</i> , 2018. * RMS velocity in decibels, VdB re 1 micro-in/sec | | |

Human response to blast vibration from blasting is difficult to quantify. Ground vibration can be felt at levels that are well below those required to produce any damage to structures. The duration of the event has an effect on human response, as does the frequency. Events are of short duration, 1-2 seconds, for millisecond-delayed blasts. Typically, the longer the event and the higher the frequency, the more adverse the effect on human response. Table 8 below depicts the average human response to vibration that may be anticipated when the person is at rest, situated in a quiet surrounding.

Table 8. Average Human Response to Vibration, In a Quiet Setting

| Average Human Response | Peak Particle Velocity (PPV) (in/sec) | Airblast (dB) |
|---|--|----------------------|
| Barely to distinctly perceptible | 0.02 – 0.10 | 50 – 70 |
| Distinct to strongly perceptible | 0.10 – 0.50 | 70 – 90 |
| Strongly perceptible to mildly unpleasant | 0.50 – 1.00 | 90 – 120 |
| Mildly to distinctly unpleasant | 1.0 – 2.00 | 120 – 140 |
| Distinctly unpleasant to intolerable | 2.00 – 10.00 | 140 - 170 |

California Department of Transportation Chapter 11: Vibration and Air Overpressure from Blasting
Transportation and Construction Vibration Guidance Manual Page 75 September 2013.

Excessive groundborne vibration can also result in damage to structures. Table 9 below shows construction vibration damage thresholds reported by the FTA (Federal Transit Administration 2018).

Table 9. Construction Vibration Damage Criteria

| Building/Structural Category | PPV (in/sec) | Approximate L_v |
|--|---------------------|----------------------------------|
| Reinforced-concrete, steel or timber (no plaster) | 0.5 | 102 |
| Engineered concrete and masonry (no plaster) | 0.3 | 98 |
| Non-engineered timber and masonry | 0.2 | 94 |
| Buildings extremely susceptible to vibration damage | 0.12 | 90 |
| Source: Federal Transit Administration. <i>Transit Noise and Vibration Assessment Manual</i> , 2018. | | |

The nearest sensitive receptor to the Proposed Project is a small residential community just over one mile (or 5,280 feet) to the east. As shown in Table 7, at 25 feet, typical construction equipment vibration velocities would not exceed 0.21 in/sec PPV. In addition, construction activities would not be concentrated at the point closest to the nearest receptor. It can be reasonably assumed that at the further distance of over one mile to the nearest sensitive receptor, the vibration velocities would be substantially less. At this distance, estimated construction vibration would be perceptible to humans but fall below unpleasant levels (Table 8), and below the threshold for damage to non-engineered timber and masonry buildings (0.20 PPV), which includes most residences (Table 9). Estimated vibration velocities due to construction activities are also below the threshold for reinforced concrete, steel, or timber structures (0.5 PPV) (Table 9), and thus would not damage Oroville facilities such as the FCO Spillway or Emergency Spillway.

Implementation of BMP-4, which requires the development of a noise abatement plan, and BMP-8, which requires the development of a Blast Plan, including methods for controlling noise during controlled blasting and preventing controlled blasting during nights, weekends, and State Holidays, can further minimize construction noise and vibration impacts (Section 1.2.4). Based on the low risk of adverse effects due to the attenuation of noise and vibration over approximately one mile to the nearest sensitive receptor, the impact would be less than significant.

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?

No impact. The Proposed Project is not within the vicinity of a public airport or within an airport land-use plan. The closest airport to the Proposed Project is the Oroville

Municipal Airport, located approximately eight miles southwest of the Proposed Project site. The airport is owned by the city of Oroville but is privately operated. Therefore, there would be no impact.

2.1.14 POPULATION AND HOUSING

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------------|--|------------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.14.1 Environmental Setting

The Proposed Project consists of realigning, grading, and paving an existing maintenance road to allow for public access during low lake levels and repairing erosion damage within the Lake Oroville embankment on State owned land. The Proposed Project does not include construction of new homes or businesses and would not extend roadways or infrastructure. The land use element of the Proposed Project footprint is designated as public (Butte County 2012), thus no housing currently exists on the site. Adjacent land is owned by the State of California as part of the State Water Project and managed by the Department of Parks and Recreation.

2.1.14.2 Discussion

- a) **Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

No impact. The Proposed Project does not include the construction of residential housing or commercial development and does not propose extensions of roads or infrastructure. Therefore, the Proposed Project would have no impact on growth in the area.

- b) **Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

No impact. The Proposed Project is located in the lakebed of Lake Oroville and will not displace existing people or housing or necessitate the construction of replacement housing elsewhere. Therefore, there is no impact related to displacement of an existing population.

2.1.15 PUBLIC SERVICES

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|--------------------------------|--|------------------------------|-----------|
| Would the project: | | | | |
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: | | | | |

| | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.15.1 Environmental Setting

The Butte County Fire Department (BCFD) and the California Department of Forestry and Fire Protection (CAL FIRE) provide fire and emergency services to the entire unincorporated county population, protecting over 1,600 square miles, except for the cities of Chico and Oroville, the town of Paradise and the El Medio Fire Protection District. Services include: fire control for structural, vegetation, vehicular and other unwanted fires, emergency medical services and technical rescue response, hazardous materials response, flood control assistance, fire prevention and public safety education, fire law enforcement/ arson investigation and vegetation management. BCFD partners with local fire protection organizations. Volunteer fire fighters are an integral component of the fire protection system in Butte County. BCFD is supported by 150 volunteer fire fighters (Butte County 2013).

The Butte County Sheriff's Office (BCSO) is responsible for law enforcement, criminal investigation and crime prevention in the unincorporated areas of the county. The BCSO maintains mutual aid agreements with the California Highway Patrol (CHP). The CHP provides law enforcement services for State roads and roads in the unincorporated portions of the county. The BCSO also maintains mutual aid agreements with Oroville, Chico, Gridley, Biggs, and Paradise municipal police departments. Municipal police departments are responsible for protecting the citizens and property within their jurisdictions.

The nearest school to the Proposed Project is Ophir Elementary School, which is over 2 miles away and located on the other side of Oroville Dam. The nearest hospital to the Proposed Project, Oroville Hospital, is over 3 miles away from the project. Other parks/recreational facilities are located within the vicinity of the project, including Lake Oroville's Potters Ravine, Kelly Ridge, and Loafer Creek Recreation Areas.

2.1.15.2 Discussion

- a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

Police and Fire protection?

No impact. The Proposed Project would not create any new demand for police or fire protection and does not adversely affect response times or alter any public services facilities or capabilities. Therefore, there would be no impact to police or fire protection as a result of the Proposed Project.

Schools?

No impact. The Proposed Project would not create any new demand for additional school construction, nor does it affect the operations of existing schools. Therefore, there are no impacts to schools as a result of the Proposed Project.

Parks?

Less than significant impact. The Proposed Project would provide alternate access to an existing public Spillway Boat ramp, and would not create or alter demand for recreational services, nor would it interfere with public usage of existing recreational facilities. There could be a temporary impact of 4 to 5 months to the park and recreation during construction but other parks/recreation areas such as Kelly Ridge and Loafer Creek Recreation areas will be open to the public. Therefore, the Proposed Project would have a less than significant impact on parks.

Other public facilities?

Less than significant impact. The Proposed Project would provide alternate access to the Spillway Boat Ramp and alterations to existing facilities but does not create any new demand for public services. The Proposed Project does not require construction of new facilities or structures but will involve road construction to improve the existing roadway access for public use. Therefore, the Proposed Project would have a less than significant impact on other public facilities.

2.1.16 RECREATION

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------------------|
| XV. Recreation. Would the project: | | | | |
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2.1.16.1 Environmental Setting

The Proposed Project site is located adjacent to the Lake Oroville State Recreation Area (LOSRA), a unit of the California State Park System, and is associated with Lake Oroville Dam Spillway Boat Ramp and Day Use Area.

LOSRA includes numerous Lake Oroville recreation areas and facilities, plus additional sites and facilities at the nearby Thermalito Diversion Pool and Thermalito Forebay (downstream from Oroville Dam). Facilities at LOSRA support a wide variety of recreational opportunities. These include boating (several types), fishing (several types), fully developed and primitive camping (including boat-in and floating sites), picnicking, swimming, horseback riding, hiking, off-road bicycle riding, wildlife watching, hunting, and visitor information sites with cultural and informational displays about the developed facilities and the natural environment. In addition to the Spillway BR/DUA, there are major recreation facilities at Loafer Creek, Bidwell Canyon, Lime Saddle, and Thermalito Forebay. Lake Oroville has two full-service marinas, five car-top boat ramps, 10 floating campsites, seven two-stalled floating toilets, and interpretive and recreation facilities at the Lake Oroville Visitors Center. Thermalito Afterbay and the

Oroville Wildlife Area also provide recreation facilities and opportunities downstream from the Proposed Project site (DWR 2006).

Oroville Dam itself is a sightseeing feature and vantage point and must be crossed to access the Spillway Boat Ramp and Day Use Area. The Spillway Boat Ramp and Day Use Area provides the largest boat ramp and parking area in LOSRA adjacent to the right abutment of Oroville Dam. This facility consists of two multi-lane boat ramps. The lower ramp has eight lanes and can be used during low to medium water levels, while the upper ramp has 12 lanes and can be used during medium to high water. The two ramps are separate and have their own accompanying parking lots. During high water, the lower ramp parking lots are submerged. Under normal operations, the site has a seasonally-staffed visitor information and fee-collection booth. The site has six flush toilets (two ADA accessible), drinking water, a fish cleaning station, and picnic sites (five tables) with shade trees. The upper lot has 895 car/trailer parking spaces, 40 of which are reserved for “en route” (self-contained) RV camping. The lower lot can accommodate 200 vehicles (car/trailers). The shoreline access allows for fishing at all reservoir levels. There is a small amphitheater at the entrance to the upper parking lot. The Spillway Boat Ramp and Day Use Area was closed to the public in 2017 and 2018 because the site was needed for construction staging during OER construction; in 2019, it was reopened to the public with daily limited hours (DWR 2019).

2.1.16.2 Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than significant impact. The Proposed Project will facilitate use of the existing Spillway Boat Ramp and Day Use Area recreation area, but only to a level for which it has historically been used and for which it was designed. Currently, public access to the Spillway Boat Ramp and Day Use Area is available but requires passing through a security checkpoint. The Proposed Project will enable public access during several months per year by a new road without need for an extra stop at a checkpoint; this Proposed Project will restore efficient access to the Spillway Boat Ramp and Day Use Area, which was the norm for many decades prior to 2017. Future use is not expected to be significantly increased above pre-2017 designed use. Substantial deterioration of the facility is not anticipated by this level of use, and thus Proposed Project impacts to the Spillway Boat Ramp and Day Use Area are expected to be less than significant.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less than Significant impact. The Spillway Boat Ramp and Day Use Area is the largest boat ramp and parking area within LOSRA (DWR 2006). Historic use levels have been repeatedly documented to be below facility capacity (DWR 2017), and the Proposed Project is not expected to increase use levels above historic use levels. Thus, construction or expansion of the Spillway Boat Ramp and Day Use Area facilities, or other local/LOSRA recreation facilities, is not expected to be necessary as a result of this Proposed Project, and impacts are expected to be less than significant.

2.1.17 TRANSPORTATION

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|-------------------------------------|-------------------------------------|
| Would the project: | | | | |
| a) Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.1.17.1 Environmental Setting

The Proposed Project is in an unincorporated area designated as public land and is four miles northeast of the city of Oroville within Butte County. The Proposed Project consists of improvements to an existing maintenance road to allow for public access to the Spillway Boat Ramp and repairs to an eroded outfall channel drainage within the lakebed of Lake Oroville. Because the Proposed Project involves updating an existing maintenance road, only used by DWR staff, to a public use road, no public roads will be impacted during construction of the road, and traffic will not need to be re-routed.

Traffic and circulation impacts associated with the Proposed Project would only pertain to the potential hauling of fill material from a local supplier to the site should the material generated from onsite excavations not be enough to complete the Proposed Project. Additionally, any materials excavated from lakebed not used as backfill for the improved road would have to be hauled off to an appropriate disposal site.

CEQA Guidelines Section 15064.3 establishes a new method for analyzing certain transportation impacts created by a project. Under the new requirements, circulation impacts must be analyzed based on vehicle miles traveled (“VMT”). VMT “refers to the amount and distance of automobile travel attributable to a Proposed Project. Other relevant considerations may include the effects of the Proposed Project on transit and non-motorized travel.” (CEQA Guidelines, section 15064.3, subd. (a)). With this update to the CEQA guidelines, the Proposed Project’s potential “effect on automobile delay shall not constitute a significant environmental impact.” Each Lead Agency is responsible for establishing its own thresholds of significance and may elect to be governed by the provisions of this section immediately or wait until the July 1, 2020 deadline.

Both Butte County and DWR have not yet adopted VMT standards pursuant to Section 15064.3 of the CEQA guidelines. The Butte County General Plan discusses impacts to transportation and circulation in terms of Level of Service (“LOS”). Table 10 provides descriptions for each LOS, outlined in the General plan. Table 10 provides Butte County LOS thresholds. General Plan Goal CIR-6 most closely aligns with the Proposed Project, to support a balanced and integrated road and highway network that maximizes the mobility of people and goods in a safe, efficient manner. The LOS for County-maintained roads within the unincorporated areas of the county but outside municipalities’ sphere of influences (SOI) shall be LOS C or better during the PM peak hour. Within a municipalities’ SOI, the LOS shall meet the municipality’s LOS policy. The LOS on State Highways should at least match the concept LOS for the facility, as defined by Caltrans (Butte County 2013).

Table 10. Peak Hour Level of Service (LOS) Descriptions

| LOS | Traffic Flow Quality |
|-----|--|
| A | Free flow. Individual users are virtually unaffected by others in the traffic stream. Control delay at signalized intersections is minimal. |
| B | Stable flow, but the presence of other users in the traffic stream begins to be noticeable. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant. |
| C | Stable flow, but the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. |
| D | High-density, but stable flow. |
| E | Operating conditions at or near capacity level. |
| F | Forced or breakdown flow. |

Source: Highway Capacity Manual 2000. Transportation Research Board, Washington, D.C.

Table 11. Peak Hour LOS Volume Thresholds by Facility Type

| Facility Type | A | B | C | D | E | F |
|---|---------|-------------|-------------|-------------|-------------|--------|
| Minor 2-Lane Highway | 0-90 | 91–200 | 201–680 | 681–1,410 | 1,411–1,740 | >1,740 |
| Major 2-Lane Highway/ Expressway | 0–120 | 121–290 | 291–790 | 791–1,600 | 1,601–2,050 | >2,050 |
| 4-Lane, Multi-Lane Highway/ Expressway | 0–1,070 | 1,071–1,760 | 1,761–2,530 | 2,531–3,280 | 3,281–3,650 | >3,650 |
| 2-Lane Arterial | – | – | 0–970 | 971–1,760 | 1,761–1,870 | >1,870 |
| 4-Lane Arterial, Undivided | – | – | 0–1,750 | 1,751–2,740 | 2,741–2,890 | >2,890 |
| 4-Lane Arterial, Divided | – | – | 0–1,920 | 1,921–3,540 | 3,541–3,740 | >3,740 |
| 6-Lane Arterial, Divided | – | – | 0–2,710 | 2,711–5,320 | 5,321–5,600 | >5,600 |
| 3-Lane Arterial, 1-Way Roadway | – | – | 0–1,310 | 1,311–2,060 | 2,061–2,170 | >2,170 |
| 2-Lane Freeway | 0–1,110 | 1,111–2,010 | 2,011–2,880 | 2,881–3,570 | 3,571–4,010 | >4,010 |
| 2-Lane Freeway + Auxiliary Lane | 0–1,410 | 1,411–2,550 | 2,551–3,640 | 3,641–4,490 | 4,491–5,035 | >5,035 |
| 3-Lane Freeway | 0–1,700 | 1,701–3,080 | 3,081–4,400 | 4,401–5,410 | 5,411–6,060 | >6,060 |
| 3-Lane Freeway + Auxiliary Lane | 0–2,010 | 2,011–3,640 | 3,641–5,180 | 5,181–6,350 | 6,351–7,100 | >7,100 |
| 4-Lane Freeway | 0–2,320 | 2,321–4,200 | 4,201–5,950 | 5,951–7,280 | 7,281–8,140 | >8,140 |
| Major 2-Lane Collector | – | – | 0–550 | 551–1,180 | 1,181–1,520 | >1,520 |

Source: Highway Capacity Manual 2000. Transportation Research Board, Washington, D.C.

Butte County is served by three major highways, State Route 99, State Route 70, and State Route 149. State Route 70 is the main highway that runs through Oroville. Oro Dam Blvd E is the major road that runs through Oroville and connects to the Proposed Project area via Canyon Drive and Oroville Dam Road. These roads would potentially be utilized for hauling of fill material between major highways and the Proposed Project site.

a) Would the project conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian.

Less than significant impact. The Proposed Project consists of improvements to an existing maintenance road to allow for secondary public access to the Spillway Boat Ramp and repairs to an eroded outfall channel drainage within the lakebed of Lake

Oroville. The paved road will consist of two 12' vehicular lanes and two 4' pedestrian lanes. Currently, the only public access to the Spillway Boat Ramp is across the Spillway Bridge. The improved road would allow for safe and secure public access to the Spillway Boat Ramp when in use, and is therefore inline with the Goal CIR-6 of the Circulation section of the Butte County General Plan. The Proposed Project does not conflict with local VMT standards, as Butte County has not yet adopted these standards. Construction of the Proposed Project would not require any public roads to be closed or re-routed, and access to the boat ramp would remain open. Implementation of BMP-6, Greenhouse Gas Emissions (Section 1.2.4) would require DWR to evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours and to minimize use of public roadways that would increase traffic. Because the improved road would only provide an alternate route to the boat ramp, operation of the road would not increase the number of vehicles accessing the area on a daily basis, and use would remain the same. As such, the Proposed Project is not likely to impact the circulation system of Butte County, and therefore would not conflict with any applicable plans, programs, ordinances, or policies addressing the circulation system. The impact would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than significant impact. As stated above, the Proposed Project involves improvement of an existing maintenance road to provide alternate public access to the existing Spillway Boat Ramp. Use of the facility and number of vehicles traveling to this facility would remain the same. Additionally, the Proposed Project is not considered a "land use project", and therefore would not alter the land use and subsequently generate additional sustained amounts of VMT. Both DWR and Butte County have not yet elected to be governed by the VMT provision of Section 15064.3, so there is currently no VMT standards to compare VMTs of the Proposed Project activities.

While the Proposed Project has been designed to utilize existing fill material excavated from the current road alignment, additional fill may need to be imported from a local facility. During construction, the Proposed Project has the potential to require up to 500 haul trips total for delivery and export of construction and fill materials. It is likely that haul routes will only traverse a 25-mile radius from the Proposed Project site. Proposed Project construction is anticipated to occur over four months, which equates to approximately four haul trips per day on average. Implementation of BMP-6, Greenhouse Gas Emissions (Section 1.2.4) would require DWR to evaluate the feasibility of restricting all material hauling on public roadways

to off-peak traffic congestion hours and to minimize use of public roadways that would increase traffic.

Because of the relatively small number of trips and the temporary nature of the Proposed Project activities, the Proposed Project would not result in a significant increase in VMT or LOS and would not conflict with CEQA Guidelines section 15064.3 subdivision (b). Therefore, the impact would be less than significant.

c) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant. The Proposed Project has been designed to meet Caltrans design standards for public safety and is configured to have road grades at a maximum of 10% and curves adequate for traffic speeds of 25 miles per hour. Improvements include a paved road surface with two 12’ vehicular lanes, two 4’ pedestrian lanes, and a 4’ gravel shoulder on either side. Additional safety features include a gate at both ends of the roadway to prevent public use during high lake levels, a physical removable barrier (k-rail) at the inlet channel, and guardrails installed along the sloped portion of the road. Appropriate roadway signage, striping, and miscellaneous pavement markings have also been incorporated into the road design. With these design features, the Proposed Project would not substantially increase hazards or incompatible uses, and the impact would be less than significant.

d) Would the project result in inadequate emergency access?

No impact. As mentioned above in (c), the Proposed Project would improve an existing maintenance road to create a secondary public access route, as well as repair erosion of the lake embankment. No road closures or traffic reroutes would occur as a result of Proposed Project construction, and emergency access would not be hindered. The Spillway Bridge would remain open as the primary access to the Spillway Boat Ramp during construction. Once construction is complete, public and potential emergency access to the Spillway Boat Ramp will seasonally switch between the two routes. Therefore, there would be no impact to emergency access.

2.1.18 TRIBAL CULTURAL RESOURCES

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|----------------------|--------------------------------|---------------------------------------|------------------------------|-----------|
|----------------------|--------------------------------|---------------------------------------|------------------------------|-----------|

Incorporate
d

Would the project:

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

☐ ☒ ☐ ☐

2.1.18.1 Regulatory Setting

Tribal cultural resources include any site, feature, place, sacred place, object, or cultural landscape with cultural value to a California Native American Tribe. These must be listed or eligible for listing in the CRHR or in a local register of historical resources, or else be determined by the CEQA lead agency as a significant resource pursuant to

state laws and regulations. Key state laws and regulations provide for the definition, protection, and management of tribal cultural resources. Those that are relevant to the Proposed Project include:

- California Assembly Bill No. 52 (AB-52)
- California Environmental Quality Act, Public Resources Code, sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21084.2, and 21084.3; CEQA Guidelines, section 15064.5
- Public Resources Code sections 5020.1, 5024.1, 5097.94, and 5097.98
- Health and Safety Code section 7050.5(b) and 7050.5(c)
- California Native American Graves Protection and Repatriation Act (Health and Safety Code Division 7, Part 2, Chapter 5; sections 8010-8030)

2.1.18.2 Environmental Setting

The Proposed Project lies within the ethnographic territory occupied by the Konkow Maidu (Kroeber 1925; McCarthy 2009; Riddell 1978), one of the three ethnolinguistic divisions of the broader Maidu language family. The Konkow once held lands in the lower mountains and foothill elevations of the Feather River and Honcutt Creek watersheds. Lands in the Central Valley included portions of the Sacramento River around Chico and down the Feather River to the vicinity of the Sutter Buttes. Throughout this territory, the Konkow were organized in village communities that consisted of a large primary village and numerous small satellite villages.

The Konkow traditionally practiced a mixed economy of hunting, gathering, and fishing. Dozens of plant and animal species were obtained from the many available habitats in the Konkow territory. Of chief importance were acorns, deer, and salmon. The Feather River was an important source of salmon, lamprey eel, and other desirable fish species, as well as shellfish. Resources that were not available within village community lands were obtained through trade with other village communities, their Mountain Maidu or Nisenan relatives, or others such as the Patwin to the southwest.

While the population was severely impacted by European diseases and later a system of violent extermination by California settlers, the Konkow Maidu people continue to live and practice their traditional culture in the Oroville area. Tribes represented within the local area include Berry Creek Rancheria of Maidu Indians (Berry Creek), Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Enterprise), Konkow Valley Band of Maidu (Konkow Valley), Mechoopda Indian Tribe of Chico Rancheria (Mechoopda), and Mooretown Rancheria of Maidu Indians (Mooretown).

2.1.18.3 Tribal Cultural Resources Inventory

A Native American Heritage Commission (NAHC) Sacred Lands and Contacts Search was completed by DWR on January 29, 2020. The search identified four Native American contacts and no Native American resources in the Proposed Project area. In February 2020, DWR sent letters via certified mail to five tribes initiating consultation for the Proposed Project. Tribes contacted included Berry Creek, Enterprise, Konkow Valley, Mechoopda, and Mooretown. Follow-up emails were sent to individuals after the initial letters. DWR received responses from Berry Creek, Enterprise, Konkow Valley, and Mooretown. To date, DWR has not received a response from Mechoopda, the only tribe that had requested formal notification of Proposed Projects under AB 52.

On March 2, 2020, Enterprise responded by email requesting their lead tribal monitors survey the Proposed Project area. On March 10, 2020, a DWR archaeologist met in person with their tribal monitors and walked the Proposed Project area. No tribal cultural resources were identified and the monitors indicated an administrator would reach out if there were any further concerns.

On March 3, 2020, Mooretown's Tribal Historic Preservation Officer (THPO) responded by email stating that they had no known tribal cultural resources located within the Proposed Project area. On March 11, 2020, a DWR archaeologist met with the THPO and walked the Proposed Project area. No tribal cultural resources were identified. The meeting concluded with an acknowledgement that, in the event of an inadvertent discovery of Native American origin, an on-call tribal monitor would be available to advise.

On March 3, 2020, Konkow Valley's chairperson responded by email requesting to consult on the Proposed Project. On March 12, 2020, a DWR archaeologist met with the chairperson at their office to discuss the Proposed Project. The chairperson agreed with Mooretown that an on-call tribal monitor should be available to advise on inadvertent discoveries. No tribal cultural resources were specified within the Proposed Project area.

On March 2, 2020, Berry Creek's Environmental Protection Agency (EPA) director responded by letter requesting to consult on the Proposed Project and suggested the possibility of cultural resources within the Proposed Project area. On March 6, 2020, DWR responded by email inviting Berry Creek to meet in person to discuss the Proposed Project and any concerns they may have. No additional correspondence has been received to date.

In addition to the NAHC Sacred Lands File search, which was negative, ethnographic documentation generated during the FERC P-2100 relicensing effort was reviewed and

there were no ethnographic sites or tribal cultural resources located within or adjacent to the Proposed Project area (McCarthy 2009).

No tribal cultural resources are known to be present within the Proposed Project area based on the negative results of the Sacred Lands File database search; the lack of previously identified tribal cultural resources in the Proposed Project area; and the absence of Native American archaeological sites, human remains, or other Native American cultural resources revealed during the background investigation or pedestrian survey described in Section 3.1.4, Cultural Resources. However, it is possible that during construction previously unidentified tribal cultural resources could be identified by culturally affiliated Tribes through further consultation.

2.1.18.4 Discussion

- a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Less than Significant with Mitigation Incorporated. No tribal cultural resources are known to be present within the Proposed Project area. Though very unlikely, the possibility remains that a potential tribal cultural resource may be revealed during project-related ground disturbing activities and identified through further consultation with culturally affiliated Tribes. If this were to occur, then it would be a potentially significant impact.

Mitigation Measure Cul-2: Worker Awareness and Response for Undiscovered Historical Resources, Archaeological Resources, and Tribal Cultural Resources

Please refer to Mitigation Measure Cul-2 in the Cultural Resources section (Section 2.1.5) for the full text of this mitigation measure.

Implementation of Mitigation Measure Cul-2 would reduce the potential impact related to discovery of unknown tribal cultural resources to a less-than-significant level because the find would be assessed by culturally affiliated Tribes and the identification and implementation of avoidance or minimization measures would be conducted in consultation with the Tribes. With implementation of Mitigation Measure Cul-2, this impact would be less-than-significant with mitigation incorporated.

2.1.19 UTILITIES AND SERVICE SYSTEMS

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|------------------------------|-------------------------------------|
| 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 the construction or relocation of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Comply with federal, state, and local management and reductions statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

2.1.19.1 Environmental Setting

The Proposed Project is located in an unincorporated area of Butte County and is four miles northeast of the city of Oroville. The Proposed Project consists of improvements to an existing maintenance road to allow for public access to the Spillway Boat Ramp and repairs to an eroded outfall channel drainage within the lakebed of Lake Oroville. The Proposed Project area is currently not serviced by utilities, and construction of the Proposed Project does not involve installation of new utilities, nor does it involve constructing any structures that would be required to be serviced by utilities.

2.1.19.2 Discussion

- a) Would the project 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, the construction or relocation of which could cause significant environmental effects?**

No impact. The Proposed Project does not involve relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications that would cause significant environmental effects, nor would it result in the need to construct such facilities. Thus, no impact would occur.

- b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

No impact. Proposed Project activities would utilize existing water supplies and would not increase the current water use at the Proposed Project site. Water trucks will be used for transporting water to the Proposed Project site for dust abatement during the construction and hauling phase. Accordingly, the Proposed Project would not require new or expanded entitlement and no impact would occur.

c) Would the project 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?

Less than significant. The Proposed Project may temporarily generate wastewater during construction from their activities. However, water pumped from the inlet will either be used onsite for dust control if it meets the numeric action level (NAL) for pH (pH 6.5 – 8.5), collected in a tank (Adler, Baker, etc.) to be treated onsite (contractor will obtain necessary permits), or hauled offsite to an appropriate facility. Thus, the impact would be less than significant.

d) Would the project 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?

Less than significant. Approximately 4,000 cu yds of material excavated from the Proposed Project site not used as backfill will be exported to an offsite facility. This amount is not in excess of State or local standards, in excess of the capacity of local infrastructure, or impair the attainment of solid waste reduction goals. Additionally, a Construction Debris Recycling and Diversion Plan would be developed prior to start of construction (BMP-5, Section 1.2.4) to reduce pollution through recycling of construction and demolition materials. Thus, the impact would be less than significant.

e) Would the project comply with federal, state, and local management and reductions statutes and regulations related to solid waste?

No impact. The Proposed Project would comply with federal, state, and local management and reductions statutes and regulations related to solid waste. There would be no impact.

2.1.20 WILDFIRE

| ENVIRONMENTAL ISSUES | Potentially Significant Impact | Less Than Significant with Mitigation Incorporate d | Less Than Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|-------------------------------------|
| If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | | | | |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2.1.20.1 Environmental Setting

In California, wildfire protection jurisdictions are separated and overseen by three areas of government: local, State, and federal. Each of the three areas have determined Fire Hazard Severity Zones (FHSZ) within each county. The zone classification is based on a multitude of factors: fire behavior models using vegetation density, adjacent wildland areas, and distance to wildland areas, another factor being the probability of a fire threatening nearby structures.

A majority of the Proposed Project footprint is located in a State Responsibility Area (SRA; Cal Fire 2020), with a small portion located in a Federal Responsibility Area (FRA) with State protection (BCCFPA 2015). Most of the Proposed Project footprint is within a Moderate severity zone, with the temporary staging areas and a portion of the road alignment in a High severity zone (Cal Fire 2020).

The Proposed Project lies within the Battalion 6 boundary of the Butte County Unit Strategic Fire Plan 2010. This section assesses fire potential and outlines safety response planning, fuel reduction, and public education and outreach. It also includes the utilization of State Parks and local agency cooperators to reach common goals (BCCFPA 2015).

2.1.20.2 Discussion

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No impact. The Proposed Project would improve an existing maintenance road to create a public access route, as well as repair an eroded area of the lake embankment. No road closures or traffic reroutes would occur as a result of Proposed Project construction, and all nearby public roads would remain open and unaffected by Proposed Project activities. Therefore, the Proposed Project would not impair an adopted emergency response plan of emergency evacuation plan, and there would be no impact.

b) Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No impact. The Proposed Project is located within the lakebed of Lake Oroville in the unvegetated reservoir fluctuation zone. Proposed Project activities are not likely to exacerbate wildfire risk. However, to further alleviate the risk of wildfire, BMP-3, Fire Prevention and Control Plan (Section 1.2.4) will be implemented to comply with the provisions of the California Fire Core (CFC) Chapter 33. The plan will include appropriate preventative measures and emergency procedures to be followed to

prevent fires occurring on site during construction and procedures for controlling any potential fires. Therefore, there would be no impact.

- c) **Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

No impact. The Proposed Project includes improvements to an existing access road. However, neither installation or maintenance of the road is expected to exacerbate fire risk or result in temporary or ongoing impacts to the environment. There would be no impact.

- d) **Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

Less than Significant impact. The Proposed Project would not expose people or structures to downslope or downstream flooding or landslides, as the Proposed Project is located within a flood control facility and has been designed in a way so as not to impact the functionality of that facility. The Proposed Project has been designed to improve water runoff at the site. Risk of fire and subsequent post-fire slope instability from Proposed Project activities is low. The impact would be less than significant.

2.1.21 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 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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? ☐ ☒ ☐ ☐

2.1.21.1 Discussion

- 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?**

Less than Significant with Mitigation Incorporated. As discussed in this Initial Study, the Proposed Project has the potential to impact biological resources, cultural resources, noise, and tribal cultural resources. With the implementation of BMPs (Section 1.2.4) and mitigation measures, the Proposed Project would not have the potential to 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 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. Therefore, Proposed Project impacts would be considered less than significant with mitigation.

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)?

Less than Significant with Mitigation Incorporated. Cumulative effects, including the effects of past, present, and future State, tribal, local, or private actions that are reasonably certain to occur in the Proposed Project area are considered in this study.

There are several past, present, and future projects in the Proposed Project vicinity including ongoing facility maintenance and work resulting from the 2017 Spillway Emergency. Current projects include:

- Oroville Security Hardening- physical security improvements including fencing, gates, electronic identification readers, and surveillance cameras are being installed at various locations within the FERC P- 2100 Boundary.
- Oroville facility improvements- replacing turbines at Hyatt Powerhouse at Oroville Dam and replacing and renovating the Ronald B. Robie Powerhouse at the Thermalito Forebay
- Recreation improvements- a new boat ramp and additional parking are being constructed at the Loafer Point Boat Ramp Facility

Probable future projects include:

- Spillways Site Rehabilitation Oroville Emergency Recovery – This project will include grading and planting of vegetation to provide long-term slope stability and erosion control over the Oroville Dam Spillway construction area after being disturbed during the 2017 Spillway Emergency and subsequent reconstruction.
- Recreation improvements-
 - Loafer Point Boat Ramp Facility - adding additional boat ramp launch lanes and parking to improve boat access to Lake Oroville.
 - Low-water Access Trail Lake Oroville Marina – This project will allow safe low-water pedestrian access to the two marinas on Lake Oroville (Lake Oroville Marina at Lime Saddle and Bidwell Canyon Marina).
 - Bidwell Canyon Stage 2 Improvement – This project will add additional Boat Ramp Launch Lanes and parking for boat access to Lake Oroville.
- Oroville Facility improvements –
 - Thermalito Diversion Dam Gate Refurbishment
 - Thermalito Afterbay Gate Refurbishment
 - Oroville Dam Flood Control Outlet Gate Refurbishment
 - Oroville Dam RVOS Rehabilitation – This project will rehabilitate and constructed improved valves for low-water releases from Lake Oroville.

When viewed in connection with the above-mentioned current and probable future actions, project impacts would not be cumulatively considerable because the Proposed Project would be short-term and localized. All projects will implement BMPs and/or mitigation measures to avoid or reduce any potentially significant impacts to less than significant. While the Proposed Project air quality and greenhouse gas emissions impacts may contribute to regional impacts, they would not be cumulatively considerable because of the small size and duration of the Proposed Project, all of the above-mentioned actions will not occur concurrently, and there would be no operational emissions. Therefore, cumulative impacts would be considered less than significant with mitigation incorporated.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated. Potential impacts from the Proposed Project would be short-term, temporary and localized. Implementing project BMPs (Section 1.2.4) and mitigation measures would result in no substantial direct or indirect adverse environmental impacts to humans. Therefore, Proposed Project impacts would be considered less than significant with mitigation incorporated.

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APPENDIX A. BIOLOGICAL SPECIES TABLE

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|------------------------|---|------------------------|-------------------|--|--|-----------------------|---|
| PLANTS | | | | | | | |
| Henderson's bent grass | <i>Agrostis hendersonii</i> | -/-/3.2 | | Valley and foothill grassland, vernal pools. | Moist places in grassland or vernal pool habitat. 65-1030 m. | None | No suitable upland habitat within the project area. |
| Jepson's onion | <i>Allium jepsonii</i> | -/-/1B.2 | BLM: S USFS: S | Chaparral, cismontane woodland, lower montane coniferous forest. | On serpentine soils in Sierra foothills, volcanic soil on Table Mtn. On slopes and flats; usually in an open area. 355-1130 m. | None | No suitable upland habitat within the project area. |
| Sanborn's onion | <i>Allium sanbornii</i> var. <i>sanbornii</i> | -/-/4.2 | | Chaparral, cismontane woodland, lower montane coniferous forest. | Usually on serpentine outcrops. 260-1510 m. | None | No suitable upland habitat within the project area. |
| True's manzanita | <i>Arctostaphylos mewukka</i> ssp. <i>truei</i> | -/-/4.2 | | Chaparral, lower montane coniferous forest. | 425-1390 m. | None | No suitable upland habitat within the project area. |
| depauperate milk-vetch | <i>Astragalus pauperculus</i> | -/-/4.3 | | Chaparral, cismontane woodland, valley and foothill grassland. | Stony flats and shallow depressions, thin soils of red sand or clay of volcanic origin; vernal mesic. 60-1215 m. | None | No suitable upland habitat within the project area. |
| Mexican mosquito fern | <i>Azolla microphylla</i> | -/-/4.2 | | Marshes and swamps. | Ponds and still water. 30-100 m. | Low | Potential suitable habitat within Lake Oroville but low likelihood of occurrence due to drawdown/spillway location and disturbance. |
| big-scale balsamroot | <i>Balsamorhiza macrolepis</i> | -/-/1B.2 | BLM: S USFS: S | Chaparral, valley and foothill grassland, cismontane woodland. | Sometimes on serpentine. 35-1465 m. | None | No suitable upland habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|----------------------------|---|------------------------|--------------|--|---|-----------------------|---|
| valley brodiaea | <i>Brodiaea rosea ssp. vallicola</i> | -/-/4.2 | | Valley and foothill grassland (swales), vernal pools. | Old alluvial terraces. Silty, sandy, and gravelly loam. 10-335 m. | None | No suitable upland or vernal pool habitat within the project area |
| Sierra foothills brodiaea | <i>Brodiaea sierrae</i> | -/-/4.3 | | Chaparral, cismontane woodland. | Usually on gabbro or serpentine. Occasionally on other soil types where conditions limit cover of other plants. 50-945 m. | None | No suitable upland habitat within the project area. |
| thread-leaved beakseed | <i>Bulbostylis capillaris</i> | -/-/4.2 | | Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. | 395-2075 m. | None | No suitable upland habitat within the project area. |
| Butte County calycadenia | <i>Calycadenia oppositifolia</i> | -/-/4.2 | USFS: S | Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, meadows and seeps. | Dry, often stoney plains and rock outcrops, on serpentine or volcanic soils. 90-945 m. | None | No suitable upland habitat within the project area. |
| dissected-leaved toothwort | <i>Cardamine pachystigma var. dissectifolia</i> | -/-/1B.2 | | Chaparral, lower montane coniferous forest. | Serpentine outcrops and gravelly serpentine talus. 300-950 m. | None | No suitable upland habitat within the project area. |
| Sierra arching sedge | <i>Carex cyrtostachya</i> | -/-/1B.2 | | Lower montane coniferous forest, riparian forest, marshes and swamps, meadows and seeps. | Mesic sites. 605-1390 m. | None | No suitable upland habitat within the project area. |
| chaparral sedge | <i>Carex xerophila</i> | -/-/1B.2 | | Chaparral, cismontane woodland, lower montane coniferous forest. | Serpentinite, gabbroic. 275-770 m. | None | No suitable upland habitat within the project area. |
| pink creamsacs | <i>Castilleja rubicundula var. rubicundula</i> | -/-/1B.2 | BLM: S | Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. | Openings in chaparral or grasslands. On serpentine. 20-915 m. | None | No suitable upland habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|---------------------------|--|------------------------|--------------------------------|--|--|-----------------------|--|
| Brandegee's clarkia | <i>Clarkia biloba ssp. brandegeae</i> | -/-/4.2 | BLM: S | Chaparral, cismontane woodland, lower montane coniferous forest. | Often in roadcuts. 75-915 m. | None | No suitable upland habitat within the project area. |
| white-stemmed clarkia | <i>Clarkia gracilis ssp. albicaulis</i> | -/-/1B.2 | BLM: S SB: UCBBG USFS: S | Chaparral, cismontane woodland. | Dry, grassy openings in chaparral or foothill woodland. Sometimes on serpentine. 210-1100 m. | None | No suitable upland habitat within the project area. |
| golden-anthered clarkia | <i>Clarkia mildrediae ssp. lutescens</i> | -/-/4.2 | | Cismontane woodland, lower montane coniferous forest. | Often in roadcuts. Rocky sites. 275-1750 m. | None | No suitable upland habitat within the project area. |
| Mildred's clarkia | <i>Clarkia mildrediae ssp. mildrediae</i> | -/-/1B.3 | BLM: S USFS: S | Cismontane woodland, lower montane coniferous forest. | On decomposed granite; sometimes on roadsides. 275-1730 m. | None | No suitable upland habitat within the project area. |
| Mosquin's clarkia | <i>Clarkia mosquinii</i> | -/-/1B.1 | BLM: S SB: RSABG USFS: S | Cismontane woodland, lower montane coniferous forest. | Usually on steep, rocky cutbanks and slopes. 215-1480 m. | None | No suitable upland habitat within the project area. |
| streambank spring beauty | <i>Claytonia parviflora ssp. grandiflora</i> | -/-/4.2 | | Cismontane woodland. | Pine/blue oak woodlands in the Sierra foothills. 250-1200 m. | None | No suitable upland habitat within the project area. |
| California lady's-slipper | <i>Cypripedium californicum</i> | -/-/4.2 | | Lower montane coniferous forest, bogs and fens. | In perennial seepages on serpentine substrate and in gravel along creek margins. 30-2750 m. | None | No suitable upland, bog, or fen habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|-----------------------------|--|------------------------|--------------------|---|--|-----------------------|---|
| recurved larkspur | <i>Delphinium recurvatum</i> | -/-/1B.2 | BLM: S SB: UCSB | Chenopod scrub, valley and foothill grassland, cismontane woodland. | On alkaline soils; often in valley saltbush or valley chenopod scrub. 3-790 m. | None | No suitable upland habitat within the project area. |
| Clifton's eremogone | <i>Eremogone cliftonii</i> | -/-/1B.3 | USFS: S | Lower montane coniferous forest, upper montane coniferous forest, chaparral. | Openings; granitic and ultramafic substrates. 475-2080 m. | None | No suitable upland habitat within the project area. |
| Ahart's buckwheat | <i>Eriogonum umbellatum</i> <i>var. ahartii</i> | -/-/1B.2 | BLM: S USFS: S | Cismontane woodland, chaparral. | Serpentinite. On slopes, in openings. 275-1480 m. | None | No suitable upland habitat within the project area. |
| fern-leaved monkeyflower | <i>Erythranthe filicifolia</i> | -/-/1B.2 | | Chaparral, lower montane coniferous forest, meadows and seeps. | Usually slow-draining, ephemeral seeps among exfoliating granitic slabs. 415-1710 m. | None | No suitable upland habitat within the project area. |
| shield-bracted monkeyflower | <i>Erythranthe glaucescens</i> | -/-/4.3 | | Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. | Wet places, often in rock crevices, and in serpentine seeps. 60-1240 m. | None | No suitable upland habitat within the project area. |
| small-flowered monkeyflower | <i>Erythranthe inconspicua</i> | -/-/4.3 | | Cismontane woodland, lower montane coniferous forest, chaparral. | Moist or shaded places. 275-760 m. | None | No suitable upland habitat within the project area. |
| cut-leaved monkeyflower | <i>Erythranthe laciniata</i> | -/-/4.3 | | Lower montane coniferous forest, upper montane coniferous forest, chaparral. | Decomposed granite, wet sandy places. 490-2650 m. | None | No suitable upland habitat within the project area. |
| Hoover's spurge | <i>Euphorbia hooveri</i> | FT/SR/1B.2 | | Vernal pools. | Vernal pools on volcanic mudflow or clay substrate. 25-130 m. | None | No vernal pool habitat within the project area |
| minute pocket moss | <i>Fissidens pauperculus</i> | -/-/1B.2 | USFS: S | North coast coniferous forest. | Moss growing on damp soil along the coast. In dry streambeds and on | None | No suitable upland habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|-------------------------|--|------------------------|----------------------------------|--|--|-----------------------|--|
| | | | | | stream banks. 30-1025 m. | | |
| Pine Hill flannelbush | <i>Fremontodendron decumbens</i> | FE/-/1B.2 | SB: RSABG SB: UCBBG | Chaparral, cismontane woodland. | Rocky ridges; gabbro or serpentine endemic; often among rocks and boulders. 425-770 m. | None | No suitable upland habitat within the project area. |
| Butte County fritillary | <i>Fritillaria eastwoodiae</i> | -/-/3.2 | USFS: S | Chaparral, cismontane woodland, lower montane coniferous forest. | Usually on dry slopes but also found in wet places; soils can be serpentine, red clay, or sandy 4550-1475 m. | None | No suitable upland habitat within the project area. |
| adobe-lily | <i>Fritillaria pluriflora</i> | -/-/1B.2 | BLM: S SB: RSABG SB: UCBBG | Chaparral, cismontane woodland, valley and foothill grassland. | Usually on clay soils; sometimes serpentine. 45-945 m. | None | No suitable upland habitat within the project area. |
| serpentine bluecup | <i>Githopsis pulchella ssp. serpentinicola</i> | -/-/4.3 | | Cismontane woodland. | Serpentine or lone formation. 320-610 m. | None | No suitable upland habitat within the project area. |
| woolly rose-mallow | <i>Hibiscus lasiocarpus var. occidentalis</i> | -/-/1B.2 | SB: RSABG SB: UCBBG | Marshes and swamps (freshwater). | Moist, freshwater-soaked river banks & low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0-155 m. | Low | Potential suitable habitat along the Lake Oroville water margin but low likelihood of occurrence due to continuous water level fluctuations, maintenance activities and disturbance associated with location near the outfall and boat ramp. |
| Ahart's dwarf rush | <i>Juncus leiospermus var. ahartii</i> | -/-/1B.2 | | Valley and foothill grassland. | Restricted to the edges of vernal pools in grassland. 30-100 m. | None | No suitable upland habitat |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|----------------------------|---|------------------------|---------------------|---|---|-----------------------|---|
| | | | | | | | within the project area. |
| Red Bluff dwarf rush | <i>Juncus leiospermus</i> var. <i>leiospermus</i> | -/-/1B.1 | BLM: S USFS: S | Chaparral, valley and foothill grassland, cismontane woodland, vernal pools, meadows and seeps. | Vernally mesic sites. Sometimes on edges of vernal pools. 30-1255 m. | None | No suitable upland or vernal pool habitat within the project area |
| Colusa layia | <i>Layia septentrionalis</i> | -/-/1B.2 | BLM: S SB: UCBBG | Chaparral, cismontane woodland, valley and foothill grassland. | Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1100 m. | None | No suitable upland habitat within the project area. |
| Cantelow's lewisia | <i>Lewisia cantelovii</i> | -/-/1B.2 | BLM: S USFS: S | Broadleafed upland forest, lower montane coniferous forest, cismontane woodland, chaparral. | Mesic rock outcrops and wet cliffs, usually in moss or clubmoss; on granitics or sometimes on serpentine. 325-1375 m. | None | No suitable upland habitat within the project area. |
| Humboldt lily | <i>Lilium humboldtii</i> ssp. <i>humboldtii</i> | -/-/4.2 | | Chaparral, lower montane coniferous forest, cismontane woodland. | Yellow-pine forest, openings or open forest. 90-1280 m. | None | No suitable upland habitat within the project area. |
| Butte County meadowfoam | <i>Limnanthes floccosa</i> ssp. <i>californica</i> | FE/SE/1B.1 | SB: RSABG | Vernal pools, valley and foothill grassland. | Wet or flowing drainages & depressions; often not in discrete vernal pools; soils are usually Redding clay with rocks. 35-370 m. | None | No suitable upland or vernal pool habitat within the project area |
| woolly meadowfoam | <i>Limnanthes floccosa</i> ssp. <i>floccosa</i> | -/-/4.2 | SB: UCBBG | Chaparral, cismontane woodland, valley and foothill grassland, vernal pools. | Vernally wet areas, ditches, and ponds. 60- 1335 m. | None | No suitable upland or vernal pool habitat within the project area |
| Quincy lupine | <i>Lupinus dalesiae</i> | -/-/4.2 | | Chaparral, cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. | Dry open or shaded slopes, summits, and trails. Plants often found in disturbed soils. 855- 2500 m. | None | No suitable upland habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|----------------------|--|------------------------|------------------------------------|--|--|-----------------------|---|
| sylvan microseris | <i>Microseris sylvatica</i> | -/-/4.2 | | Chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, valley and foothill grassland. | Serpentine. 45-1500 m. | None | No suitable upland habitat within the project area. |
| veiny monardella | <i>Monardella venosa</i> | -/-/1B.1 | BLM: S SB: RSABG SB: UCBBG | Valley and foothill grassland, cismontane woodland. | In heavy clay; mostly with grassland associates. Rediscovered in 1992. 30-405 m. | None | No suitable upland habitat within the project area. |
| adobe navarretia | <i>Navarretia nigelliformis</i> <i>ssp. nigelliformis</i> | -/-/4.2 | | Valley and foothill grassland, vernal pools. | Clay soils; sometimes on serpentine. 100-1000 m. | None | No suitable upland or vernal pool habitat within the project area |
| hairy orcutt grass | <i>Orcuttia pilosa</i> | FE/SE/1B.1 | SB: RSABG | Vernal pools. | 25-125 m. | None | No vernal pool habitat within the project area |
| slender Orcutt grass | <i>Orcuttia tenuis</i> | FT/SE/1B.1 | SB: UCBBG | Vernal pools. | Often in gravelly substrate. 25-1755 m. | None | No suitable upland or vernal pool habitat within the project area |
| Lewis Rose's ragwort | <i>Packera eurycephala</i> <i>var. lewisrosei</i> | -/-/1B.1 | BLM: S USFS: S | Cismontane woodland, lower montane coniferous forest, chaparral. | Steep slopes and in canyons in serpentine soil, often along or near roads. 285-1890 m. | None | No suitable upland habitat within the project area. |
| Layne's ragwort | <i>Packera layneae</i> | FT/SR/1B.2 | SB: RSABG SB: UCBBG SB: UCSC | Chaparral, cismontane woodland. | Ultramafic soil (serpentine or gabbro); occasionally along streams. 205-1060 m. | None | No suitable upland habitat within the project area. |
| Ahart's paronychia | <i>Paronychia ahartii</i> | -/-/1B.1 | BLM: S | Valley and foothill grassland, vernal pools, cismontane woodland. | Stony, nearly barren clay of swales and higher ground around vernal pools. 45-500 m. | None | No suitable upland or vernal pool habitat within the project area |

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|----------------------|---------------------------------|------------------------|--------------|--|---|-----------------------|--|
| Bacigalupi's yampah | <i>Perideridia bacigalupii</i> | -/-/4.3 | | Chaparral, lower montane coniferous forest. | Steep rocky banks or slopes on serpentine. 450-1035 m. | None | No suitable upland habitat within the project area. |
| Sierra blue grass | <i>Poa sierrae</i> | -/-/1B.3 | USFS: S | Lower montane coniferous forest. | Shady, moist, rocky slopes. Often in canyons. 365-1915 m. | None | No suitable upland habitat within the project area. |
| Bidwell's knotweed | <i>Polygonum bidwelliae</i> | -/-/4.3 | | Chaparral, cismontane woodland, valley and foothill grassland. | Bare open areas on flats and volcanic outcrops; often in clay soils. 60-1200 m. | None | No suitable upland habitat within the project area. |
| brownish beaked-rush | <i>Rhynchospora capitellata</i> | -/-/2B.2 | | Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest. | Mesic sites. 45-1710 m. | Low | Potential suitable habitat along the Lake Oroville water margin but low likelihood of occurrence due to continuous water level fluctuations, maintenance activities and disturbance associated with location near the outfall and boat ramp. |
| Sanford's arrowhead | <i>Sagittaria sanfordii</i> | -/-/1B.2 | BLM: S | Marshes and swamps. | In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m. | Low | Potential suitable habitat along the Lake Oroville water margin but low likelihood of occurrence due to continuous water level fluctuations, maintenance |

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|----------------------------|-----------------------------------|------------------------|--------------------|--|--|-----------------------|--|
| | | | | | | | activities and disturbance associated with location near the outfall and boat ramp. |
| Tracy's sanicle | <i>Sanicula tracyi</i> | -/-/4.2 | USFS: S | Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. | Dry gravelly slopes or flats, usually in or at the margin of oak woodland with scattered trees. In openings. 100-1585 m. | None | No suitable upland habitat within the project area. |
| giant checkerbloom | <i>Sidalcea gigantea</i> | -/-/4.3 | | Lower montane coniferous forest, upper montane coniferous forest, meadows and seeps. | Moist areas, such as in meadows or at the edges of wet meadows, along creeks, or at seeps and springs. 670-1950 m. | None | No suitable upland or aquatic habitat (wet meadows and creeks) within the project area |
| Butte County checkerbloom | <i>Sidalcea robusta</i> | -/-/1B.2 | BLM: S | Chaparral, cismontane woodland. | Small draws and rocky crevices. 75-400 m. | None | No suitable upland habitat within the project area. |
| obtuse starwort | <i>Stellaria obtusa</i> | -/-/4.3 | | Upper montane coniferous forest, lower montane coniferous forest, riparian woodland. | Streams or seeps in conifer forest. 150-2135 m. | None | No suitable upland habitat within the project area. |
| sickle-fruit jewelflower | <i>Streptanthus drepanoides</i> | -/-/4.3 | | Chaparral, lower montane coniferous forest, cismontane woodland. | Open serpentine slopes and roadcuts. 275-1660 m. | None | No suitable upland habitat within the project area. |
| long-fruit jewelflower | <i>Streptanthus longisiliquus</i> | -/-/4.3 | | Lower montane coniferous forest, cismontane woodland. | Openings. 715-1500 m. | None | No suitable upland habitat within the project area. |
| Butte County golden clover | <i>Trifolium jokerstii</i> | -/-/1B.2 | BLM: S SB: USDA | Valley and foothill grassland, vernal pools. | Mesic sites in grassland. 45-400 m. | None | No suitable upland or vernal pool habitat within the project area |

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|-----------------------------------|--|------------------------|-----------------------|--|--|-----------------------|--|
| Greene's tuctoria | <i>Tuctoria greenei</i> | FE/SR/1B.1 | | Vernal pools. | Vernal pools in open grasslands. 25-1325 m. | None | No suitable upland habitat within the project area. |
| INVERTEBRATES | | | | | | | |
| western bumble bee | <i>Bombus occidentalis</i> | -/SCE/- | USFS: S XERCES: IM | Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. | | None | No suitable habitat within the project area. |
| Conservancy fairy shrimp | <i>Branchinecta conservatio</i> | FE/-/- | IUCN: EN | Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. | Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June. | None | No suitable vernal pool habitat within the project area. |
| vernal pool fairy shrimp | <i>Branchinecta lynchi</i> | FT/-/- | IUCN: VU | Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. | Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. | None | No suitable vernal pool habitat within the project area. |
| valley elderberry longhorn beetle | <i>Desmocerus californicus dimorphus</i> | FT/-/- | | Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). | Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries. | None | No host plants (elderberry shrubs) within or adjacent to the project area. |
| vernal pool tadpole shrimp | <i>Lepidurus packardii</i> | FE/-/- | IUCN: EN | Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. | Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid. | None | No suitable vernal pool habitat within the project area. |
| California linderiella | <i>Linderiella occidentalis</i> | -/-/- | IUCN: NT | Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. | Water in the pools has very low alkalinity, conductivity, and total dissolved solids. | None | No suitable vernal pool habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|--|--|------------------------|--|--|---|-----------------------|--|
| FISHES | | | | | | | |
| Delta Smelt | <i>Hypomesus transpacificus</i> | FT/SE/- | AFS: TH IUCN: EN | Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. | Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt. | None | Not present within Lake Oroville. |
| steelhead - Central Valley DPS | <i>Oncorhynchus mykiss irideus pop. 11</i> | FT/-/- | AFS: TH | Populations in the Sacramento and San Joaquin rivers and their tributaries. | | None | Not present within Lake Oroville. NMFS BiOp (12/05/16) no critical habitat upstream of fish barrier dam. |
| chinook salmon - Central Valley spring-run ESU | <i>Oncorhynchus tshawytscha pop. 6</i> | FT/ST/- | AFS: TH | Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 C are lethal to adults. | Federal listing refers to populations spawning in Sacramento River and tributaries. | None | Not present within Lake Oroville. NMFS BiOp (12/05/16) no critical habitat upstream of fish barrier dam. |
| AMPHIBIANS AND REPTILES | | | | | | | |
| foothill yellow-legged frog | <i>Rana boylei</i> | -/SCT/- | BLM: S CDFW: SSC IUCN: NT USFS: S | Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. | Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. | Low | Nearby occurrences, but no suitable habitat within the project area. |
| California red-legged frog | <i>Rana draytonii</i> | FT/-/- | CDFW: SSC IUCN: VU | Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. | Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat. | None | No suitable habitat within the project area. |
| Sierra Nevada yellow-legged frog | <i>Rana sierrae</i> | FE/ST/- | CDFW: WL IUCN: EN USFS: S | Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development. | | None | No suitable habitat within the project area. |

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|----------------------|-------------------------------|------------------------|--|--|---|-----------------------|--|
| western spadefoot | <i>Spea hammondi</i> | -/-/- | BLM: S CDFW: SSC IUCN: NT | Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. | Vernal pools are essential for breeding and egg-laying. | None | No suitable habitat within the project area. |
| western pond turtle | <i>Emys marmorata</i> | -/-/- | BLM: S CDFW: SSC IUCN: VU USFS: S | A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. | Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. | Low | Potential suitable aquatic habitat within the project area. Nearby CNDDDB occurrences within the Thermalito Diversion Pool. |
| coast horned lizard | <i>Phrynosoma blainvillii</i> | -/-/- | BLM: S CDFW: SSC IUCN: LC | Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. | Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects. | None | No suitable habitat within the project area. |
| giant garter snake | <i>Thamnophis gigas</i> | FT/ST/- | IUCN: VU | Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. | This is the most aquatic of the gartersnakes in California. | None | No suitable habitat within the project area. |
| BIRDS | | | | | | | |
| northern goshawk | <i>Accipiter gentilis</i> | -/-/- | BLM: S CDF: S CDFW: SSC IUCN: LC USFS: S | Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites. | Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees. | Low | No suitable habitat within 1/4 mile of the project area. Few observations of the species in the forests around Lake Oroville |
| tricolored blackbird | <i>Agelaius tricolor</i> | -/ST/- | BLM: S CDFW: SSC IUCN: EN | Highly colonial species, most numerous in Central Valley & vicinity. | Requires open water, protected nesting substrate, and foraging area with insect prey | None | No suitable habitat within the project area. |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|------------------------------|---|------------------------|---|--|--|-----------------------|---|
| | | | NABCI: RWL USFWS: BCC | Largely endemic to California. | within a few km of the colony. | | |
| burrowing owl | <i>Athene cunicularia</i> | -/-/- | BLM: S CDFW: SSC IUCN: LC USFWS: BCC | Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. | Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. | High | Known to occur within the project area; on-going monitoring has been and will continue to occur to inform of presence. No pre-construction monitoring will occur. |
| Swainson's hawk | <i>Buteo swainsoni</i> | -/ST/- | BLM: S IUCN: LC USFWS: BCC | Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. | Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. | Low | No suitable habitat within 1/2 mile of the project area. Species has been observed downstream at Thermalito forebay |
| western yellow-billed cuckoo | <i>Coccyzus americanus occidentalis</i> | FT/SE/- | BLM: S NABCI: RWL USFS: S USFWS: BCC | Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. | Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. | None | No suitable habitat within 1/4 mile of the project area. |
| black swift | <i>Cypseloides niger</i> | -/-/- | CDFW: SSC IUCN: LC NABCI: YWL USFWS: BCC | Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. | Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely. | None | No suitable habitat within the project area. |

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|-----------------------|--|------------------------|---|--|---|-----------------------|---|
| bald eagle | <i>Haliaeetus leucocephalus</i> | -/SE/- | BLM: S CDF: S CDFW: FP IUCN: LC USFS: S USFWS: BCC | Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. | Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter. | High | Known to nest in trees adjacent to the project area and forage in Lake Oroville and the TDP |
| California black rail | <i>Laterallus jamaicensis coturniculus</i> | -/ST/- | BLM: S CDFW: FP IUCN: NT NABCI: RWL USFWS: BCC | Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. | Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat. | None | No suitable habitat within the project area. |
| osprey | <i>Pandion haliaetus</i> | -/-/- | CDF: S CDFW: WL IUCN: LC | Ocean shore, bays, freshwater lakes, and larger streams. | Large nests built in tree-tops within 15 miles of a good fish-producing body of water. | High | Known to nest in trees and structures adjacent to the project area and forage in Lake Oroville and the TDP |
| bank swallow | <i>Riparia riparia</i> | -/ST/- | BLM: S IUCN: LC | Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. | Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. | Low | No suitable nesting habitat within the project area. Species known to nest downstream along Feather River and may forage in the project area during migration |
| MAMMALS | | | | | | | |
| pallid bat | <i>Antrozous pallidus</i> | -/-/- | BLM: S CDFW: SSC IUCN: LC | Deserts, grasslands, shrublands, woodlands and forests. Most | Roosts must protect bats from high temperatures. Very sensitive to | Low | No suitable roosting habitat in the project |

| Common Name | Scientific Name | Fed/ State/ CNPS | Other Status | Habitat | Micro Habitat | Potential to Occur | Justification for Potential to Occur |
|--------------------------|--|------------------------|---|---|--|-----------------------|--|
| | | | USFS: S WBWG: H | common in open, dry habitats with rocky areas for roosting. | disturbance of roosting sites. | | area, but potential foraging habitat. |
| Townsend's big-eared bat | <i>Corynorhinus townsendii</i> | -/-/- | BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H | Throughout California in a wide variety of habitats. Most common in mesic sites. | Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance. | Low | No suitable roosting habitat in the project area, but potential foraging habitat. |
| North American porcupine | <i>Erethizon dorsatum</i> | -/-/- | IUCN: LC | Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. | Wide variety of coniferous and mixed woodland habitat. | None | No suitable habitat within the project area. |
| western mastiff bat | <i>Eumops perotis californicus</i> | -/-/- | BLM: S CDFW: SSC WBWG: H | Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. | Roosts in crevices in cliff faces, high buildings, trees and tunnels. | Low | No suitable roosting habitat in the project area, but potential foraging habitat. |
| silver-haired bat | <i>Lasionycteris noctivagans</i> | -/-/- | IUCN: LC WBWG: M | Primarily a coastal and montane forest dweller, feeding over streams, ponds & open brushy areas. | Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water. | Low | No suitable roosting habitat in the project area, but potential foraging habitat. |
| fringed myotis | <i>Myotis thysanodes</i> | -/-/- | BLM: S IUCN: LC USFS: S WBWG: H | In a wide variety of habitats, optimal habitats are pinyon- juniper, valley foothill hardwood & hardwood- conifer. | Uses caves, mines, buildings or crevices for maternity colonies and roosts. | Low | No suitable roosting habitat in the project area, but potential foraging habitat. |
| Yuma myotis | <i>Myotis yumanensis</i> | -/-/- | BLM: S IUCN: LC WBWG: LM | Optimal habitats are open forests and woodlands with sources of water over which to feed. | Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices. | Low | No suitable roosting habitat in the project area, but potential foraging habitat. |

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|-------------------------|-------------------------|------------------------|-------------------------------|--|--|-----------------------|--|
| fisher - West Coast DPS | <i>Pekania pennanti</i> | -/ST/- | BLM: S CDFW: SSC USFS:S | Intermediate to large- tree stages of coniferous forests and deciduous- riparian areas with high percent canopy closure. | Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest. | None | No suitable habitat within the project area. |

Status Key:

FE = Federally Endangered; listed as Endangered under the federal Endangered Species Act

FT = Federally Threatened; listed as Threatened under the federal Endangered Species Act

SE = State Endangered; listed as Endangered under the California Endangered Species Act

ST = State Threatened; listed as Threatened under the California Endangered Species Act

SCE = State Candidate Endangered

SCT = State Candidate Threatened

1B.1 = CNPS Rare Plant Rank (CRPR); listed as rare throughout their range and are seriously threatened in California

1B.2 = CNPS CRPR; listed as rare throughout their range and are moderately threatened in California

1B.3= CNPS CRPR; listed as rare throughout their range and are not very threatened in California

2B.2 = CNPS CRPR; listed as rare throughout their range and are moderately threatened in California but common in other states or countries; meet definitions of CESA and are eligible for State listing but do not meet FESA standards

3.2= CNPS CRPR; lack the necessary information to assign them to one of the other ranks or to reject them; meet definitions of CESA and are eligible for State listing

4.2 and 4.3= CNPS CRPR; limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly.

AFS: TH = AFS_TH-Threatened

BLM: S= BLM_S-Sensitive

CDFW: WL= CDFW_WL-Watch List

CDFW: SSC= CDFW_SSC-Species of Special Concern

CDFW: FP = CDFW_FP-Fully Protected

IUCN: LC= IUCN_LC-Least Concern

IUCN: VU= IUCN_Vulnerable

IUCN: NT= IUCN_NT-Near Threatened

IUCN: EN= IUCN_EN-Endangered

SB: USDA= SB_USDA-US Dept of Agriculture

SB: UCBBG= SB_UCBBG-UC Berkeley Botanical Garden

SB: RSABG= SB_RSABG-Rancho Santa Ana Botanic Garden

SB: UCSB= SB_UCSB-UC Santa Barbara

SB: UCSC= SB_UCSC-UC Santa Cruz

USFS: S= USFS_S-Sensitive

Western Bat Working Group WBWG: LM= WBWG_LM-Low-Medium Priority

WBWG: M= WBWG_M-Medium

WBWG: H= WBWG_H-High Priority

CDF: S= CDF_S-Sensitive

USFWS: BCC= USFWS_BCC-Birds of Conservation Concern

NABCI: YWL= NABCI_YWL-Yellow Watch List

NABCI: RWL= NABCI_RWL-Red Watch List

XERCES: IM= XERCES_IM-Imperiled

APPENDIX B. TRIBAL CONSULTATION LOG



STATE OF CALIFORNIA

Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

January 29, 2020

Rylan Thomas

California Department of Water Resources

Via Email to: rylan.thomas@water.ca.gov

CHAIRPERSON

Laura Miranda
Luiseño

VICE CHAIRPERSON

Reginald Pagaling
Chumash

SECRETARY

Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN

Russell Attebery
Karuk

COMMISSIONER

Marshall McKay
Wintun

COMMISSIONER

William Mungary
Paiute/White Mountain
Apache

COMMISSIONER

Joseph Myers
Pomo

COMMISSIONER

Julie Tumamait-
Stenslie
Chumash

COMMISSIONER

[Vacant]

EXECUTIVE SECRETARY

Christina Snider
Pomo

Re: Permanent Lakeside Access Road Improvement Project , Butte County

Dear Mr. Thomas:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Staff Services Analyst

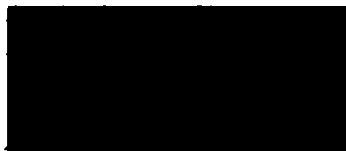
Attachment

NAHC HEADQUARTERS

1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

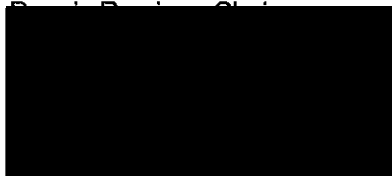
**Native American Heritage Commission
Native American Contact List
Butte County
1/29/2020**

KonKow Valley Band of Maidu



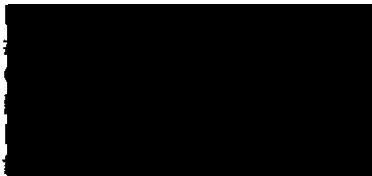
KonKow
Maidu

Mechoopda Indian Tribe



KonKow
Maidu

***Mooretown Rancheria of Maidu
Indians***



KonKow
Maidu

***Mooretown Rancheria of Maidu
Indians***



KonKow
Maidu

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Permanent Lakeside Access Road Improvement Project, Butte County.

DEPARTMENT OF WATER RESOURCES

OROVILLE FIELD DIVISION
460 GLEN DRIVE
OROVILLE, CA 95966



February 24, 2020

The Honorable [REDACTED]
[REDACTED]
[REDACTED]

Subject: AB 52 Notification for Lakeside Access Road Improvement Project

Dear [REDACTED],

This letter serves as a formal invitation to [REDACTED] (the Tribe) to consult with the Department of Water Resources (DWR or Department) under Assembly Bill 52 (AB 52), pursuant to Public Resources Code (PRC) section 21080.3.1, on the proposed Lakeside Access Road Improvement Project (Project).

The proposed Project is located in Butte County, California, on the lake side (northeast) of the right abutment of Oroville Dam along the Oroville Dam Road (see Attachment A). The purpose of the Project is to provide a secondary public access route to the Upper Spillway Boat Launch. The new road would extend from the Dam Crest Parking Lot, cross the inlet channel of the Spillway, and connect to the Upper Spillway Boat Launch Parking Area. Upon completion, the new road would extend 0.53 miles and encompass approximately 4.49 acres. The Department anticipates work on the Project will begin in August 2020 and will take 6 months to complete.

Work on the project would include: grading and slight realignment of a previously established maintenance road; placement of an aggregate base road layer and reinforced concrete on the road surface; installation of v-ditches and culverts; asphalt paving near parking areas; installation of gates, guardrails, and signage; and erosion repair near the Upper Spillway Boat Launch. Work will also include establishing temporary staging areas for equipment and materials. All work will occur within a temporary construction limit approximately 16 acres in size (see Attachment B).

Most subsurface disturbance will occur during earthwork and grading, in which a backhoe, excavator, and dozer, as well as controlled blasting, will be utilized to bring the road base to grade. Earthwork and grading work will occur within an area no greater than 4 acres and subsurface disturbance will be no greater than 20 feet in depth. Within the 16-acre temporary construction limit, other activities may result in minor ground disturbance (less than 6-inch depth). Additional equipment may include graders, loaders, vibratory compactors, asphalt pavers, concrete trucks, and haul trucks, among others.

Cultural resource identification efforts completed thus far includes a records search of DWR's cultural resources geodatabase for the Oroville management area, which consists of current information on pedestrian surveys and previously identified cultural resources. Historical maps and ethnographic studies were also reviewed. DWR also completed a Sacred Lands File database search with the Native American Heritage Commission (NAHC). Based on these efforts, no cultural resources were identified within the Project's temporary construction limits. A record search with the Northeast Information Center (NEIC) is in progress.

Page 2

The Department is the lead agency under the California Environmental Quality Act (CEQA) and is proposing to prepare a CEQA document for the Project. As part of the cultural resources review of the proposed Project under CEQA, we are writing to provide your Tribe with the opportunity to submit any information that you are willing to share about cultural resources that may be in close proximity to the proposed Project area shown in Attachment A, especially Tribal Cultural Resources as defined in PRC section 21074. We understand that the locations of these resources are sensitive and resource locations will not be disclosed in public documents and will be kept confidential as provided for under California Government Code section 6254.10.

As indicated earlier, this letter also serves as a formal invitation to your Tribe to consult with DWR regarding the proposed Project under AB 52 and PRC section 21080.3.1. If your Tribe would like to participate in formal consultation with DWR, please notify the undersigned, in writing, within 30 calendar days of receipt of this notice. Also, please provide a copy of any notification to Rylan Thomas at 916-376-9792, or by email at rylan.thomas@water.ca.gov.

If a written request is not received by DWR within 30 calendar days, the consultation process under PRC section 21080.3.1 will not take place. The Department is, however, committed to working together with your Tribe consistent with its Tribal Engagement Policy and the California Natural Resources Agency's Tribal Engagement Policy. This notification does not limit the ability of your Tribe to submit information to DWR.

If you have any questions or need additional information, please contact me at Mark.Hafner@water.ca.gov, or contact Rylan Thomas, Senior Environmental Scientist (Cultural Resources Specialist), at 916-376-9792 or by email at rylan.thomas@water.ca.gov.

Sincerely,



Mark Hafner, Chief
Oroville Field Division
California Department of Water Resources

Enclosure

cc:

Anecita Agustinez, Tribal Policy Advisor
California Dept. of Water Resources
P.O. Box 942836
Sacramento, California 94236-0001

Eric See, License Coordination Branch
Oroville Field Division
California Dept. Water Resources
460 Glen Drive
Oroville, CA 95966



A horizontal scale bar with tick marks at 0, 0.25, 0.5, 0.75, and 1. The word "Miles" is written at the right end of the bar.

Temporary Construction Limit



Lakeside Access Road Improvement Project Detail Map



DEPARTMENT OF WATER RESOURCES

OROVILLE FIELD DIVISION
460 GLEN DRIVE
OROVILLE, CA 95966



February 25, 2020

The Honorable [REDACTED]
[REDACTED]
[REDACTED]

Subject: Notification for Lakeside Access Road Improvement Project

Dear [REDACTED],

This letter serves as a formal invitation to the [REDACTED] (the Tribe) to consult with the Department of Water Resources (DWR or Department) on the proposed Lakeside Access Road Improvement Project (Project). The Department is committed to working together with your tribe consistent with its Tribal Engagement Policy and the California Natural Resources Agency's Tribal Engagement Policy.

The proposed Project is located in Butte County, California, on the lake side (northeast) of the right abutment of Oroville Dam along the Oroville Dam Road (see Attachment A). The purpose of the Project is to provide a secondary public access route to the Upper Spillway Boat Launch. The new road would extend from the Dam Crest Parking Lot, cross the inlet channel of the Spillway, and connect to the Upper Spillway Boat Launch Parking Area. Upon completion, the new road would extend 0.53 miles and encompass approximately 4.49 acres. The Department anticipates work on the Project will begin in August 2020 and will take 6 months to complete.

Work on the project would include: grading and slight realignment of a previously established maintenance road; placement of an aggregate base road layer and reinforced concrete on the road surface; installation of v-ditches and culverts; asphalt paving near parking areas; installation of gates, guardrails, and signage; and erosion repair near the Upper Spillway Boat Launch. Work will also include establishing temporary staging areas for equipment and materials. All work will occur within a temporary construction limit approximately 16 acres in size (see Attachment B).

Most subsurface disturbance will occur during earthwork and grading, in which a backhoe, excavator, and dozer, as well as controlled blasting, will be utilized to bring the road base to grade. Earthwork and grading work will occur within an area no greater than 4 acres and subsurface disturbance will be no greater than 20 feet in depth. Within the 16-acre temporary construction limit, other activities may result in minor ground disturbance (less than 6-inch depth). Additional equipment may include graders, loaders, vibratory compactors, asphalt pavers, concrete trucks, and haul trucks, among others.

Cultural resource identification efforts completed thus far includes a records search of DWR's cultural resources geodatabase for the Oroville management area, which consists of current information on pedestrian surveys and previously identified cultural resources. Historical maps and ethnographic studies were also reviewed. DWR also completed a Sacred Lands File database search with the Native American Heritage Commission (NAHC). Based on these efforts, no cultural resources were identified within the Project's temporary construction limits. A record search with the Northeast Information Center (NEIC) is in progress.

Page 2

The Department is the lead agency under the California Environmental Quality Act (CEQA) and is proposing to prepare a CEQA document for the Project. As part of the cultural resources review of the proposed Project under CEQA, we are writing to provide your Tribe with the opportunity to submit any information that you are willing to share about cultural resources that may be in close proximity to the proposed Project area shown in Attachment A, especially Tribal Cultural Resources as defined in PRC section 21074. We understand that the locations of these resources are sensitive and resource locations will not be disclosed in public documents and will be kept confidential as provided for under California Government Code section 6254.10.

DWR is committed to working together with the Tribe to properly account for and manage resources important to the Tribe and we welcome any recommendations regarding appropriate management or treatment of resources that occur within the project area. This notification does not limit the ability of your tribe to submit information regarding the significance of the tribal cultural resources, the significance of the project's impact on tribal cultural resources, or any appropriate mitigation measures (PRC § 21080.3.2(c)(1)).

If you have any questions or need additional information, please contact me at Mark.Hafner@water.ca.gov, or contact Rylan Thomas, Senior Environmental Scientist (Cultural Resources Specialist), at 916-376-9792 or by email at rylan.thomas@water.ca.gov.

Sincerely,

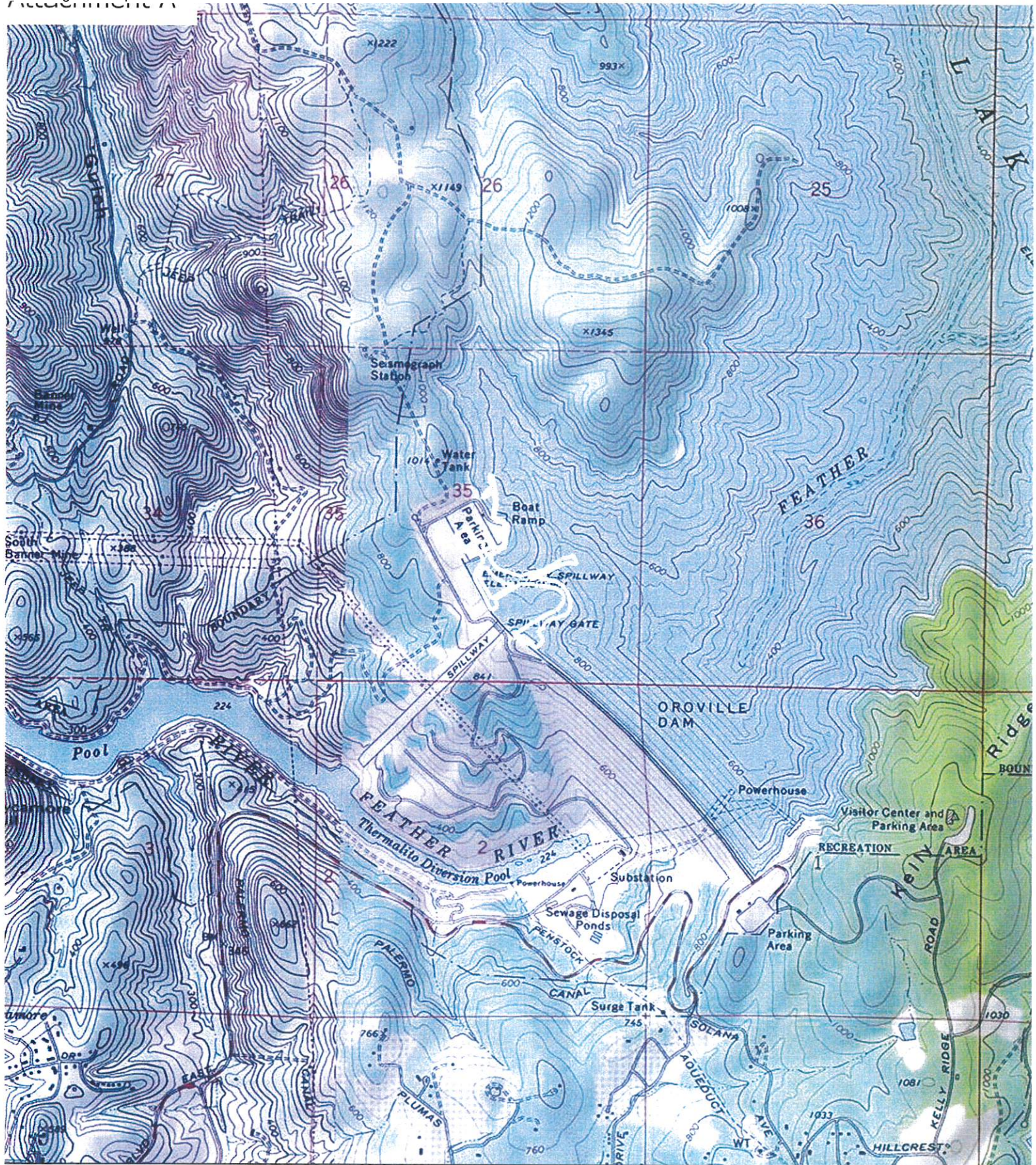


Mark Hafner, Chief
Oroville Field Division
California Department of Water Resources

Enclosure

cc:

| | |
|---|--|
| Anecita Agustinez, Tribal Policy Advisor California Dept. of Water Resources P.O. Box 942836 Sacramento, California 94236-0001 | Eric See, License Coordination Branch Oroville Field Division California Dept. Water Resources 460 Glen Drive Oroville, CA 95966 |
|---|--|



1:24,000

Lakeside Access Road Improvement Project Oroville Dam 7.5' USGS Quadrangle Butte County, California

LEGEND

Temporary Construction Limi



Attachment B

Legend

- | | |
|-------------------------|----------------------|
| TEMPORARY-CONSTR-LIMITS | ASPHALT-LIMITS |
| GRADING-LIMITS | 12IN-CONCRETE-CULVEI |
| CONCRETE-LIMITS | TEMP-STAGING-AREA |



Lakeside Access Road Improvement Project
Detail Map

0 250 500 750 1,000
Feet





| Tribe | Communication Type | Date | From (Principal Individual Initiating Communication) | | | To: (Principal Individual Receiving Communication) | | | Additional Participants, CCs | Topics Discussed |
|------------|--------------------|-----------|--|---|--|--|--|---|--|--|
| | | | Individual | Position | Affiliation | Recipient | Position | Recipient Affiliation | Name, Affiliation | |
| Mechoopda | Letter | 2/24/2020 | Mark Hafner | Chief, Oroville Field Division | California Department of Water Resources (DWR) | Dennis Ramirez | Chairman | Mechoopda Indian Tribe of Chico Rancheria (Mechoopda) | cc to: Anecita Agustinez, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; secondary contact provided: Rylan Thomas, DWR Archaeologist | Project purpose, location, brief description, map of project area, invitation to consult under AB 52; No response received to date; |
| Enterprise | Letter | 2/25/2020 | Mark Hafner | Chief, Oroville Field Division | DWR | Glenda Nelson | Chairwoman | Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Enterprise) | cc to: Anecita Agustinez, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; secondary contact provided: Rylan Thomas, DWR Archaeologist | Project purpose, location, brief description, map of project area, invitation to consult under Tribal Engagement Policy; |
| | Email | 3/2/2020 | Creig Marcus | Tribal Administrator | Enterprise | Rylan Thomas | Archaeologist | DWR | cc to: Reno Franklin, Enterprise THPO | Request to have lead tribal monitors conduct survey to determine potential for discovery; Also requested record search results; |
| | Email | 3/3/2020 | Rylan Thomas | Archaeologist | DWR | Creig Marcus | Tribal Administrator | Enterprise | cc to: Reno Franklin, Enterprise THPO | Provided secure link with record search results and proposed possible meeting time for tribal monitors to survey project area; Clarified DWR's inventory techniques; |
| | Phone Call | 3/4/2020 | Rylan Thomas | Archaeologist | DWR | Creig Marcus | Tribal Administrator | Enterprise | None | Phone call to clarify details regarding Lakeside Access Road project and coordination for field meeting; |
| | Email | 3/9/2020 | Creig Marcus | Tribal Administrator | Enterprise | Rylan Thomas | Archaeologist | DWR | cc to: Reno Franklin, Enterprise THPO; Jesse Ruiz, Enterprise Lead Tribal Monitor; David Rodriguez, Enterprise Lead Tribal Monitor | Confirmed field meeting details; |
| | Field Meeting | 3/10/2020 | Jesse Ruiz | Lead Tribal Monitor | Enterprise | Rylan Thomas | Archaeologist | DWR | Also present: David Rodriguez, Enterprise Lead Tribal Monitor | Walked project area with Mr. Ruiz and Mr. Rodriguez and discussed project details, including ground disturbing activities and areas; Mr. Ruiz inspected some areas with greater detail than others; Potential for discovery was considered to be low and no cultural resources were identified; Mr. Ruiz and Mr. Rodriguez indicated that Mr. Marcus would reach out if there were any further concerns or comments; |
| Mooretown | Letter | 2/25/2020 | Mark Hafner | Chief, Oroville Field Division | DWR | Benjamin Clark | Chairman | Mooretown Rancheria of Maidu Indians (Mooretown) | cc to: Anecita Agustinez, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; secondary contact provided: Rylan Thomas, DWR Archaeologist | Project purpose, location, brief description, map of project area, invitation to consult under Tribal Engagement Policy; |
| | Email | 3/3/2020 | Rylan Thomas | Archaeologist | DWR | frontdesk@mooretown.org | Mooretown Email Address provided by NAHC | Mooretown | cc to: Anecita Agustinez, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; | Follow-up email to notification letter sent on 2/25/2020; Attached letter; Directed additional questions to Rylan Thomas, DWR Archaeologist; |
| | Email | 3/3/2020 | Matthew Hatcher | Tribal Historic Preservation Officer (THPO) | Mooretown | Rylan Thomas | Archaeologist | DWR | None | Mr. Hatcher indicated that the Tribe had no previously identified sites or culturally significant areas within the project area; suggested that ground disturbance has the potential to expose previously unidentified sites; suggested tribal monitors from Mooretown be used if tribal monitoring was deemed necessary; |
| | Email | 3/6/2020 | Rylan Thomas | Archaeologist | DWR | Matthew Hatcher | THPO | Mooretown | None | Informed Mr. Hatcher that, based on negative inventory results, DWR did not anticipate need for monitors; Suggested field meeting to view project area and discuss project; Proposed dates for field meeting; |
| | Email | 3/6/2020 | Matthew Hatcher | THPO | Mooretown | Rylan Thomas | Archaeologist | DWR | None | Confirmed field meeting details; |
| | Field Meeting | 3/11/2020 | Rylan Thomas | Archaeologist | DWR | Matthew Hatcher | THPO | Mooretown | None | Walked project area with Mr. Hatcher and discussed project details along with other current and upcoming DWR projects; Concluded field meeting with verbal agreement that, in the event of an unanticipated discovery of Native American origin, Mooretown would be contacted and a tribal monitor would be on-call to advise; |



| | | | From (Principal Individual Initiating Communication) | | | To: (Principal Individual Receiving Communication) | | | Additional Participants, CCs | |
|---------------|--------------------|-----------|--|--------------------------------|---------------|--|--------------------------------|--|--|---|
| Tribes | Communication Type | Date | Individual | Position | Affiliation | Recipient | Position | Recipient Affiliation | Name, Affiliation | Topics Discussed |
| Berry Creek | Letter | 2/25/2020 | Mark Hafner | Chief, Oroville Field Division | DWR | Francis Steele | Chairman | Berry Creek Rancheria of Maidu Indians (Berry Creek) | cc to: Anequita Agustine, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; secondary contact provided: Rylan Thomas, DWR Archaeologist | Project purpose, location, brief description, map of project area, invitation to consult under Tribal Engagement Policy; |
| | Letter | 3/2/2020 | Angela Bolton-Tout | Tribal EPA Director | Berry Creek | Mark Hafner | Chief, Oroville Field Division | DWR | cc to: Anequita Agustine, DWR Tribal Policy Advisor | Responding to the notification letter sent on 2/25/2020, Ms. Bolton accepted invitation to consult, suggested the possibility of tribal cultural resources within the project area, and requested a tribal monitor be present for duration of the project; |
| | Email | 3/3/2020 | Rylan Thomas | Archaeologist | DWR | Francis Steele | Chairman | Berry Creek | cc to: Anequita Agustine, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; | Follow-up email to notification letter sent on 2/25/2020; Attached letter; Directed additional questions to Rylan Thomas, DWR Archaeologist; |
| | Email | 3/6/2020 | Rylan Thomas | Archaeologist | DWR | Angela Bolton-Tout | Tribal EPA Director | Berry Creek | cc to: Anequita Agustine, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; | Informed Ms. Bolton-Tout that, based on negative inventory results, DWR did not anticipate need for monitors; Suggested field meeting to view project area and discuss project/concerns; Proposed date for meeting; No response received to date; |
| Konkow Valley | Letter | 2/25/2020 | Mark Hafner | Chief, Oroville Field Division | DWR | Jessica Lopez | Chairwoman | Konkow Valley Band of Maidu (Konkow Valley) | cc to: Anequita Agustine, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; secondary contact provided: Rylan Thomas, DWR Archaeologist | Project purpose, location, brief description, map of project area, invitation to consult under Tribal Engagement Policy; |
| | Email | 3/3/2020 | Rylan Thomas | Archaeologist | DWR | Jessica Lopez | Chairwoman | Konkow Valley | cc to: Anequita Agustine, DWR Tribal Policy Advisor and Eric See, DWR Oroville Field Division License Coordination Branch Chief; | Follow-up email to notification letter sent on 2/25/2020; Attached letter; Directed additional questions to Rylan Thomas, DWR Archaeologist; |
| | Email | 3/3/2020 | Jessica Lopez | Chairwoman | Konkow Valley | Rylan Thomas | Archaeologist | DWR | None | Responding to follow-up email sent on 3/3/2020, Chairwoman Lopez accepted invitation to consult and recommended tribal monitors be on site for ground disturbing activities; |
| | Email | 3/6/2020 | Rylan Thomas | Archaeologist | DWR | Jessica Lopez | Chairwoman | Konkow Valley | None | Informed Chairwoman Lopez that, based on negative inventory results, DWR did not anticipate need for monitors; Suggested field meeting to view project area and discuss project; Proposed dates for field meeting; |
| | Email | 3/6/2020 | Jessica Lopez | Chairwoman | Konkow Valley | Rylan Thomas | Archaeologist | DWR | None | Chairwoman Lopez suggested resources located within project area and insisted tribal monitors be present for all projects with ground disturbance in Lake Oroville area; |
| | Email | 3/6/2020 | Rylan Thomas | Archaeologist | DWR | Jessica Lopez | Chairwoman | Konkow Valley | None | Explained the need for additional information on suggested resources, as it would be necessary to define under NHPA or CEQA and to provide adequate protection measures; Reiterated DWR commitment to confidentiality; Suggested dates for in-person meeting; |
| | Email | 3/10/2020 | Jessica Lopez | Chairwoman | Konkow Valley | Rylan Thomas | Archaeologist | DWR | None | Chairwoman Lopez accepted invitation to meet and confirmed meeting details; |
| | Office Meeting | 3/11/2020 | Rylan Thomas | Archaeologist | DWR | Jessica Lopez | Chairwoman | Konkow Valley | None | Held meeting with Chairwoman Lopez at her office; Discussed project details along with other current and upcoming DWR projects; Confirmed there are no definable resources within project area; Chairwoman agreed with Mooretown that an on-call tribal monitor should be available to advise on unanticipated discoveries of Native American origin; |

APPENDIX C. DWR GREENHOUSE GAS (GHG) EMISSIONS REDUCTION PLAN CONSISTENCY DETERMINATION

Greenhouse Gas(GHG) Emissions Reduction Plan Consistency Determination

For Projects Using Contractors or Other Outside Labor

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 contractors or outside labor 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://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan>

| | |
|---|---|
| Project Name: | Lake Oroville Permanent Lakeside Road |
| Environmental Document Type: | Initial Study/ Mitigated Negative Declaration |
| Manager's Name: | Andrew Christensen |
| Manager's E-mail: | andrew.christensen@water.ca.gov |
| Division: | Division of Engineering |
| Office, Branch, or Field Division: | Civil Engineering Branch |

| |
|---|
| Short Project Description: |
| The California Department of Water Resources (DWR) is proposing to construct the Permanent Lakeside Road Project (proposed project) to allow for public access to the Spillway Boat Ramp at Lake Oroville. This document represents DWR's evaluation of the potential environmental impacts of the proposed project under the California Environmental Quality Act (CEQA) and is intended to satisfy the responsibilities of the lead agency under CEQA for a Mitigated Negative Declaration. |

| | | |
|--|---------|---------------------|
| Project GHG Emissions Summary: | | |
| Total Construction Emissions | 1,135.8 | mtCO ₂ e |
| Maximum Annual Construction Emissions | 1,135.8 | mtCO ₂ e |
| <input checked="" type="checkbox"/> All other emissions from the project not accounted for above will occur as ongoing operational, maintenance, or business activity emissions and therefore have already been accounted for and analyzed in the GGERP. | | |

| | |
|--|---|
| Extraordinary Construction Project Determination: | |
| Do total project construction emissions exceed 25,000 mtCO ₂ e for the entire construction phase or exceed 12,500 mtCO ₂ e in any single year of construction? | |
| <input checked="" type="checkbox"/> No- Additional analysis not required | <input type="checkbox"/> Yes - Project specific emissions mitigation measures have been included in the environmental analysis document for the project |

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 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 letter documenting that the project has consulted with the DWR SWP Power and Risk Office regarding the additional power requirements of the project.

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 entire proposed project is consistent with the DWR Greenhouse Gas Reduction Plan and the greenhouse gases emitted by the project are covered by the plan's analysis.
- ☐ The operational and maintenance phase of the project is consistent with the DWR Greenhouse Gas Reduction Plan and the greenhouse gases emitted by the project are covered by the plan's analysis. Emissions from the construction phase of the project are not covered by the DWR Greenhouse Gas Emissions Reduction Plan and will be mitigated as part of the project.

Project Manager Signature: _____

Date: 3/4/20

C4 Approval Signature: _____

Date: _____

Attachments:

☒ GHG Emissions Inventory

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

☐ SWP Power and Risk Office Consultation Letter

Links:

<https://current.water.ca.gov/programs/icc/SitePages/Home.aspx>

<https://water.ca.gov/Programs/All-Programs/Climate-Change-Program>

Emissions from Transportation of Construction Workforce

[illegible]

| | | | | | | | | |
|----|--|-----------------------|-----------------------|--|---|--------------------------------------|---|--|
| 34 | | | | | | | | |
| 35 | Emissions from Transportation of Construction Materials | | | | | | | |
| 36 | Trip Type | Total Number of Trips | Average Trip Distance | Total Miles Travelled | Average Semi-truck Fuel Efficiency | Total Fuel Consumption (gal. diesel) | CO ₂ e/gal Diesel ³ | Total CO ₂ Equivalent Emissions (metric tons) |
| 37 | Delivery | 250 | 25 | 6250 | 6 | 1041.666667 | 0.010 | 10.82435 |
| 38 | Spoils | 200 | 25 | 5000 | 6 | 833.3333333 | 0.010 | 8.65948 |
| 39 | TOTAL | | | | | | | 19.48383 |
| 40 | | | | | | | | |
| 41 | Construction Electricity Emissions | | | | | | | |
| 42 | | | MWh of electricity | mtCO ₂ _e /MWh ⁵ | CO ₂ e emissions | | | |
| 43 | Electricity Needed | | 5 | 0.277 | 1.385 | | | |
| 44 | ⁵ eGRID2010 Version 1.0 CAMX-WECC sub-region . | | | | | | | |
| 45 | | | | | | | | |
| 46 | Total Construction Activity Emissions | | | | 1,135.8 (from lines 25, 32, 39, and 43) | | | |
| 47 | Total Years of Construction | | | | 0.33 | | | |
| 48 | Expected Start Date of Construction | | | | August-20 | | | |
| 49 | | | | | | | | |
| 50 | Estimated Project Useful life | | | 20 Years | | | | |
| 51 | Average Annual Total GHG Emissions ⁷ | | | 56.787952 MT CO ₂ equivalents | | | | |
| 52 | Max. Year Construction GHG Emissions ⁸ | | | MT CO2 equivalents | | | | |
| 53 | ⁷ short-term construction emissions amortized over life of project | | | | | | | |
| 54 | ⁸ Emissions total from single year of construction when emissions peak (for multi-year construction projects) | | | | | | | |

NOTE: the Average Annual Total GHG Emissions is NOT the same value as the "Maximum Annual Emissions" (MAE) value that is required on the DWR GGERP Consistency Form for Projects Using Outside Labor and Equipment; The MAE is calculated to ensure that the project does not emit more than 12,500 mtCO₂e in any given year

DWR Project Level GHG Emissions Reduction Measures

The following list of Best Management Practices (BMPs) for DWR construction and maintenance activities are recommended to reduce GHG emissions from construction projects. All projects that rely on the GGERP must implement the BMPs as part of the project or explain why the measures that have not been incorporated do not apply to the project. No variances in BMPs have been requested, for all BMPs have the potential to apply to the proposed project.

BMP 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.

BMP 2. Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.

BMP 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.

BMP 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.

BMP 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.

BMP 6. Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.

BMP 7. Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). 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.

BMP 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.

BMP 9. Implement tire inflation program on jobsite 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.

BMP 10. Develop a project specific ride share program to encourage carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.

BMP 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.

BMP 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 SmartWay27 certified truck will be used to the maximum extent feasible.

BMP 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.

BMP 14. Develop a project specific construction debris recycling and diversion program to achieve a documented 50% diversion of construction waste.

BMP 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.

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