

Appendix C-1

ESA Review Form for Projects Under FEMA's PBA with USFWS in California in the Sacramento FWO Jurisdiction (to be submitted to USFWS)

INSTRUCTIONS: This Endangered Species Act (ESA) Review Form is for proposed projects that may be funded under various FEMA grants programs in California and that would be covered under FEMA's Programmatic Biological Assessment (PBA) and the corresponding U.S. Fish and Wildlife Service (USFWS) Programmatic Biological Opinion (PBO) from the Sacramento Fish and Wildlife Office (FWO). This form must be filled out by a qualified Biologist¹ who is knowledgeable on the ESA, federally listed species² and their habitats, and Critical Habitat³. This form provides the information necessary for FEMA to make a determination of effects from the Subapplicant's proposed project for compliance with the ESA regarding federally listed species and their Critical Habitats. For subapplicant's proposed projects that meet the criteria for coverage under the PBA-PBO, FEMA would submit this completed form to the USFWS and request coverage under the PBA-PBO from the Sacramento FWO. There are five sections in this form (check the sections being submitted):

- ☒ **Section A:** Information on the proposed project,
- ☒ **Section B:** Determination of effects to federally listed species and/or Critical Habitat protected under the ESA,
- ☐ **Section C:** ESA Review for Not Likely to Adversely Affect (NLAA) determinations for proposed projects under the applicable FEMA PBA-PBO, and
- ☒ **Section D:** ESA Review for Likely to Adversely Affect (LAA) determinations for proposed projects under the applicable FEMA PBA-PBO.
- ☐ **Section E:** For the Sacramento FWO to complete and sign.

Please complete **Sections A** and **B**, and complete either **Section C** or **D** of the form, as needed. Use the highest level of the ESA determination to select whether to complete Section C or D of this form. If there is an LAA determination for at least one federally listed species and/or Critical Habitat, please complete Section D only and address the other species in that section as well. Attach photographs, relevant maps, preliminary engineering designs, and any additional information on the Subapplicant's proposed project. After completing the applicable sections of this form, please fill out the Summary Table below:

¹ A qualified Biologist consists of an environmental professional with at least a Bachelor's degree in Biology, Ecology, Natural Resources, Environmental Sciences, or similar, and has significant experience over multiple years working with federally listed species, their habitats, and Endangered Species Act implementation in the State of California.

² In this form, the term "federally listed species" includes species listed or proposed to be listed as threatened or endangered under Endangered Species Act.

³ In this form, the term "Critical Habitat" refers to designated Critical Habitat and proposed Critical Habitat for federally listed species protected under the Endangered Species Act.

Summary Table
Summary of ESA Effects Determination on Federally Listed Species and Critical Habitat

FEMA Grant # or Disaster # and Project Worksheet # and Site/LOP #	Species Name	ESA Effects Determination	Critical Habitat
FEMA-4301-DR-CA, PW 00895, Site 1a, 1b, and 2	California red-legged frog (<i>Rana draytonii</i>)	May affect, and is likely to adversely affect	May affect, and is likely to adversely affect critical habitat (i.e., physical and biological features)
	California tiger salamander (<i>Ambystoma californiense</i>)	May affect, and is likely to adversely affect	No effect (Action Area does not overlap with Designated Critical Habitat)

Note: If the Subapplicant's proposed project is under another Federal agency's jurisdiction (e.g., U.S. Forest Service, National Park Service, Bureau of Land Management, Bureau of Reclamation, etc.) or another Federal agency is functioning as the Lead Federal Agency (e.g., U.S. Army Corps of Engineers), then there no need to prepare this FEMA form.

Name of Qualified Biologist and Date of Preparation:

Site Visit by Caitlin Jensen, and Justin Whitfield

ESA Form by: David Pecora, Lorena Solórzano-Vincent, and Justin Whitfield

August 23, 2019

Biologist's Qualifications:**Professional Degree:**

Justin Whitfield's Professional Degree: BS Biological Science.

David Pecora's Professional Degree: BS Marine Biology.

Lorena Solórzano-Vincent's Professional Degree: BS Biology, MS in Conservation Biology.

Years of experience working with federally listed species, their habitats, and Endangered Species Act implementation in the State of California:

David Pecora's Experience: 11 years.

Lorena Solórzano-Vincent's Experience: 20 years.

Justin Whitfield's Experience: 14 years.

SECTION A. INFORMATION ON PROPOSED PROJECT (press F11 to advance to the next field)**A.1. Project Name:**

Pig Pond Dam & Bear Pond Dam Repairs

A.2. FEMA Grant # or Disaster and Project Worksheet #s:

FEMA-4301-DR-CA, PW 00895(0)

A.3. Name of Subapplicant (Agency Name)⁴:

California Department of Parks and Recreation

A.4. Project Location (street address, latitude/longitude, or UTM and Datum/Zone):

38787 Dinosaur Point Road, Hollister, CA 95023;

Site 1a Pig Pond Low Water Crossing: 37.05051, -121.21381

Site 1b Pig Pond Dam: 37.04947°, -121.21212

Site 2 Bear Pond Dam (aka Bear Hide Pond): 37.02844, -121.20250

See Attachment A, Figure 1 for a map of the project locations.

A.5. State/County/Municipality:

California/ Merced/ Unincorporated

A.6. Description of the Action Area⁵:

Please attach a map(s), aerial image, photographs, GIS data layers, and other information on the Action Area. Please include a description of the vegetation communities, aquatic habitats, slope, ambient noise levels, and any sensitive biological resources in the Action Area.

⁴ In the case of a Tribe, the term to be used is "Applicant".

⁵ Action Area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02).

Vicinity Setting: The proposed project is located in Pacheco State Park, west of San Luis Reservoir, on the eastern slope of the coast range of western Merced County, California (**Attachment A, Figure 1**). Pacheco State Park includes 6,890 acres of natural lands, of which only the western 2,600 acres are open for public recreational day uses at this time.

The Action Area associated with the three projects include the overland access areas, a low water crossing, dam embankments, spillways, the associated reservoirs, and adjacent areas proposed for excavation (source of fill material) (**Attachment A, Figure 2**). The Action Area associated with the Pig Pond Dam, and the low water crossing have been combined into a single action area due to overlap of the indirect effects. Photographs of the proposed project are provided in **Attachment B**.

Pig Pond Dam and the low water crossing Action Area includes the existing reservoir, dam embankment and spillway, non-native annual grasslands, disturbed hillside scrape, a wetland seep, and oak woodlands. Pig Pond is temporally inundated, filling during the wet season, and typically drying or nearly drying out in the dry season. At the time of the site visit, the reservoir was lined with a narrow band of emergency vegetation consisting of sparse and low growing bulrush (*Scirpus* sp.) and rushes (*Juncus* sp.). During the site visit, the areas below the spillway elevation that are not inundated were largely devoid of vegetation and showed sign of cattle usage. Upland areas are composed of non-native annual grasslands, and open oak woodlands including interior live oak (*Quercus wislizeni*), blue oak (*Q. douglasii*), and California buckeye (*Aesculus californica*). The dam embankment includes annual grasses, and herbaceous vegetation, and contains numerous and abundant small mammal burrows. At the base of the dam embankment, downstream, is a seep dominated by rabbitsfoot grass (*Polypogon monspeliensis*), rushes, and thistle (*Asteracea*) and vervain (*Verbena* sp.). The footprint of the low water crossing is composed on existing dirt roadway and graveled low water crossing; the areas adjacent to the low-water crossing includes an ephemeral drainage and non-native annual grasslands.

Bear Pond Dam (aka Bear Hide Pond Dam) Action Area includes the pond, dam embankment and spillway, non-native annual grasslands, disturbed hillside scrape, a wetland seep, and oak woodlands. Bear Pond is larger in size than Pig Pond and likely permanently inundated; during the droughts, this pond may dry out or nearly drying out. Unlike Pig Pond, the reservoir does not appear to contain emergent vegetation. During the site visit, areas below the full pool elevation were noticeably devoid of vegetation, and showed signs of cattle usage. Upland areas are composed of non-native annual grasslands, and are dotted with sparse oak woodlands including blue oak. The dam embankment includes non-native grasses, and herbaceous vegetation, and contains numerous and abundant small mammal burrows. At the base on the dam embankment, downstream, is a wetland area where the material from the embankment has deposited and have become vegetated with thistle, bromes, rushes, beardless wild rye (*Elymus triticoides*); the wetland transitions to an ephemeral channel which flows, just beyond the Park's property boundary into another impoundment.

Briefly describe the project footprint⁶ in a few sentences below:

Site 1a Pig Pond Low Water Crossing: approximately 36-feet long, 8-feet wide.

Site 1b Pig Pond Dam: embankment repairs approximately 100-feet long, and 90-feet wide

Site 2 Bear Pond Dam (aka Bear Hide Pond Dam): embankment repairs approximately 75-feet long, and 40-feet wide.

The projects footprints described above do not include access routes or the potential borrow sites, and area based on the areas to be repaired. See **Attachment A, Figure 2** for a visible depiction of the project footprints.

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Are any water bodies including rivers, streams, seasonal wetlands (i.e., vernal pools, ponds, wet meadows, etc.), estuaries, or coastal water bodies located within the Action Area?

☒ YES ☐ NO

If Yes, will in-water work be needed for completion of the Subapplicant's proposed project?

☒ YES ☐ NO

⁶ Project footprint corresponds to all the areas with structures affected by implementation of the Subapplicant's proposed project, including construction staging areas, spoils disposal sites, gravel or rock pits, access routes, any areas of ground disturbance, etc.

If No, how far is the water body from the limits of ground disturbance and/or vegetation removal?

What is the name of the river, stream, estuary, or coastal water body? If the river/stream is a tributary, provide the name of the receiving water body. For seasonal/annual bodies of water, describe the time of year and the duration of time that water is typically present. Describe the flow of water (i.e., still, slow moving, swift, etc.) anticipated during the scheduled activities for the proposed project.

Pig Pond Low Water Crossing: Ephemeral tributary upstream of Pig Pond, which is tributary to Salt Creek

Pig Pond Dam: Intermittent Pond/Reservoir of ephemeral tributary to Salt Creek

Bear Pond Dam (aka Bear Hide Pond Dam): Intermittent Pond/Reservoir of ephemeral tributary to San Luis Creek

A.7. Proposed Project Schedule and Duration:

Please provide start and end dates (including month and year) of project implementation, number of work days, and number of work hours per day (e.g., 5 days of work for 10 hours per day).

Start Date April 15* **End Date** October 15*

The Subapplicant stated that work would be conducted in the dry season. However, with implementation of *CRLF-CTS-2 Seasonal Avoidance* the construction work window would be restricted to July 15 to October 15.

Number of work days: 15 days

Number of work hours per day: 8 hours/day

Will any work activities occur during nighttime? If so, please describe them. No.

A.8. Description of Subapplicant's Proposed Project:

Describe the project activities in detail, including construction methods (i.e., equipment to be used, access routes, construction work areas, construction staging areas, spoils disposal sites, gravel or rock pits, etc). Include the Subapplicant's best management practices⁷ to be implemented, and post-construction activities, if applicable. (The details described here are as provided by the Subapplicant in their project description.) Attach project plans and layouts and post-project monitoring and reporting plans, if available.

The California Department of Parks and Recreation (Subapplicant) approved scope of work would return the low water crossing, dam embankment and spillway to pre-disaster design, function and capacity.

Pig Pond Dam (37.05051, -121.21381):

The activities for these two sites (low water crossing just above Pig Pond (Site 1a; 37.05051°, -121.21381°), and the Pig pond embankment and spillway (Site 1b; 37.04947°, -121.21212°) would be conducted during the same period of equipment mobilization and combined in one contract.

- The damaged aggregate base of the low water crossing would be repaired, using approximately 4 cubic yards of base material. The segment of the road surface washout would be about 36-feet long by 7.5-feet wide by 3-inches thick. The washout of the material above the 15-inch diameter culvert would be repaired over an area measuring 5-feet long by 5-feet wide by 2-feet deep.
- The embankment and spillway of the dam would be repaired with earthen fill. The embankment slope would vary and would be reconstructed at a slope of 1.5:1 to 2:1. Approximately 57 cubic yards of earthen material would be utilized on the embankment in two areas. The first area would measure approximately 24-feet long, 10-feet wide, and 4-feet deep. The second area would measure approximately 24-feet long, 6-feet wide, and 4-feet deep.
- The eroded spillway would be repaired with 13 cubic yards of earthen material applied to an area measuring approximately 30-feet long by 6-feet wide by 2-feet deep.
- Jute mesh and hydroseed would be applied over the disturbed area, a total of approximately 237 square yards.

⁷ In this form, BMPs refer to standard measures proposed by the subapplicant as part of their proposed project. BMPs should not be confused with the Conservation Measures included in FEMA's PBA and the corresponding USFWS PBO.

Bear Pond (aka Bear Hide Pond Dam (37.02844, -121.20250)): The repair activities at the Bear Hide Pond embankment and spillway repair would be conducted during a separate mobilization from Pig Pond Dam due to the distance between the sites.

- The embankment and spillway of the dam would be repaired with earthen fill. The embankment slope would vary and would be reconstructed at a 1.5:1 to 1:1 (vertical to horizontal) ratio. Approximately 510 cubic yards of earthen material would be utilized on the embankment measuring 30-feet long by 34-feet wide by 27-feet deep.
- The eroded spillway would be repaired with 98 cubic yards of earthen material applied to an area measuring approximately 44-feet long by 12-feet wide by 5-feet deep.
- Jute mesh and hydroseed would be applied over the disturbed area, a total of approximately 175 square yards.

Project Implementation: Based on additional information provided by the Subapplicant, the implementation of the proposed project would require either on-site excavation to acquire the earthen fill material, or import of fill material; as well as the use of pumps within the existing reservoir to provide a water source for compaction of the dam embankment and spillways.

- Source of Earthen Material: If possible, native earthen material would be obtained from original fill borrow sites adjacent to the dam sites. Otherwise, fill would have to be imported from a commercial source. Depending on the volume, extracting local materials may require additional permitting with various state and federal agencies. During the site visit, the Subapplicant indicated that earthen fill material would be obtained from on-site sources, as follows:
 - Pig Pond: A potential borrow site was identified during the reconnaissance site visit located on the eastern slope immediately adjacent to the dam embankment. The borrow area measures approximately 100-feet long by 100-feet wide by 1 to 3 feet deep.
 - Bear Hide Pond: A potential borrow site was identified during the reconnaissance site visit located on the western slope immediately adjacent to the dam embankment. The borrow area measures about 120-feet long by 120-feet wide by 1 to 3-feet deep.
- Water Source/Pumps: Due to the remote site location, a pump may be used to obtain construction water from the ponds. The pump would be used during application of the earthen fill to the embankment. The water would be used a compaction agent, and would be applied to the spillway and embankment. Alternatively, water may be trucked in from an offsite source via a water truck.

Equipment and Construction Sequence: Based on additional information provided by the Subapplicant, the following equipment and construction method/sequence would be required.

- Equipment: Dozer, excavator, water trucks, water pump, compactor, support vehicles.
- Sequence/Methods for Spillway and Dam Repair: After equipment has been mobilized to the site, a portion of the dam crest would be graded down to create a wider access platform. Fill material would be imported or material would be excavated from the hillside. The material would be placed and compacted into the eroded portions of the embankment/spillway. Water would be used to moisten the earthen material for compaction into the embankment. Once the eroded features are repaired, compacted fill material would be used to rebuild the dam crest to pre-disaster conditions.
- Sequence/Methods for Low Water Crossing: Gravel material would be brought in on a truck; aggregate base material would be applied and spread within the existing bridge structure using a backhoe.

Select the applicable project type(s):

- | | |
|---|---|
| ☐ Non-Emergency Debris Removal | ☐ Airport Runway Construction |
| ☐ Road and Trail Construction | ☐ Facility Disaster Mitigation Activities |
| ☐ Utility Construction | ☐ Building and Facility Construction |
| ☐ Rail Line Construction | ☐ Channelization |
| ☐ Flood Control Activities | ☐ Stormwater Management |
| ☐ Culvert Construction | ☒ Dam Construction [Note: The proposed projects actually involve repair to the dam embankment, spillway, and pond edges, and do <u>not</u> involve the construction of a new dam.] |
| ☐ Bridge Construction | |
| ☐ Bank Protection, Stabilization, and Erosion Control Activities | |

- ☐ Detention/Retention, or Basin Water Storage Facility Construction
- ☐ Linear Water Conveyance Facility Construction
- ☐ Shoreline Facilities - Recreational or Maritime Use
- ☐ Shoreline Facilities - Protection
- ☐ Wildfire Risk reduction - Defensible Space Creation and Hazardous Fuels Reduction

Describe the access routes: Access would occur primarily on existing dirt and two-track park roads. Overland access through non-native annual grasslands would occur between the two-track roads and the work sites. At Pig Pond, equipment would utilize the western shoreline of the pond to access the embankment (at the time of construction this area is anticipated to be dry).

Describe the construction staging and work areas: Staging would occur on the existing dams and on and adjacent to existing dirt access roads. At Pig Pond, the access would occur on dry ground along the upper margin of the reservoir (dry conditions). At Bear Hide Pond, the overland access would occur in non-native annual grasslands.

If the Subapplicant's proposed project includes vegetation removal and/or trimming, describe the vegetation type and the extent that would be removed and/or trimmed. Describe the planned revegetation efforts, which should be consistent with the measures described in the applicable PBA-PBO.

The proposed project would not require removal of mature woody vegetation. Clearing and grubbing of a few small shrubs and non-native annual grasslands would occur in association with the proposed project. A few oak trees may require trimming to provide equipment access.

SECTION B. DETERMINATION OF EFFECTS TO FEDERALLY LISTED SPECIES AND/OR CRITICAL HABITAT PROTECTED UNDER ESA

B.1. Does the Action Area for the Subapplicant's proposed project have the potential to support federally listed species and/or does it contain Critical Habitat including physical or biological features essential for the conservation of the species? Also, describe the methods and results of any listed species surveys and/or habitat assessments conducted.

Surveys/Habitat Assessment:

The potential for federally listed species to occur in the Action Areas were evaluated based on a review of the existing data and the reconnaissance survey.

- Pacheco State Park General Plan and Environmental Impact Report (CDPR 2015)
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC), Official Species List (USFWS 2019, **Attachment C**)
- California Natural Diversity Database (CNDDB) of federally listed species occurrence records within a 10-mile radius of the Proposed Project (CDFW 2019; **Attachment A, Figure 3**)
- USFWS Designated Critical Habitat for federally listed species within a 10-mile radius of the Proposed Project (**Attachment A, Figure 4**)

In total, the Official Species List identified six (6) wildlife species that are federally listed as threatened or endangered, proposed to be listed as threatened or endangered, and have recorded occurrences in the vicinity of the Action Areas, and/or have the potential to occur based on historic range and suitable habitat in the vicinity of the Action Areas (**Attachment D - Federally Listed Species with Potential to Occur in the Action Area**). Additionally, based on the Official Species List, and available Geographic Information System databases, designated critical habitat for one listed species, California red-legged frog is present in the Action Area (**Attachment A, Figure 4**).

AECOM biologists, working as FEMA's consultants, conducted a reconnaissance survey of the Action Area on June 19, 2018. The surveys included meeting with the Subapplicant to gather additional information about the Proposed Projects and included identification of the vegetation communities in the Action Area and habitat assessment for federally listed species and informed the evaluation of the listed species potential to occur in the Action Area (**Attachment D**).

References:

- California Department of Fish and Wildlife (CDFW). 2019. California Natural Diversity Database. Commercial License. Biogeographic Data Branch. GIS information and BIOS Review.
- California Department of Parks and Recreation (CDPR). 2015. Pacheco State Park General Plan and Environmental Impact Report. Volume 1. SCH No 2003121089. Available online at: https://www.parks.ca.gov/?page_id=22694
- U.S. Fish and Wildlife Service (USFWS). 2019. Official Species List for Pig Pond and Bear Pond. Consultation Codes:08ESMF00-2019-SLI-1353 and 08ESMF00-2019-SLI-1355. August 20, 2019.

☐ NO

It has been determined that the Action Area occurs either:

- ☐ a) Outside the range of any federally listed species,
- ☐ b) Within the range of a federally listed species but outside of occupied or suitable habitat and outside Critical Habitat, or
- ☐ c) Within Critical Habitat designation but lacks the physical or biological features essential for the conservation of the species.

Go to B.2.

☒ **YES. List the federally listed species and Critical Habitat that is present or potentially present in the Action Area of the Subapplicant's proposed project (go to B.2)**

California red-legged frog, and it's designated critical habitat
California tiger salamander

See **Attachment C** for the USFWS ECOS IPaC Official Species List (one of Pig Pond and one for Bear Hide Pond)
See **Attachment D** for the Federally Listed and Proposed Species with Potential to Occur in the Action Area.

B.2. Could the Subapplicant's proposed project directly or indirectly affect federally listed species and/or Critical Habitat (i.e., the physical or biological features essential for the conservation of the species) in the Action Area?

☐ NO

No Effect. FEMA has determined that implementation of the proposed project would not affect federally listed species and/or Critical Habitat. If a No Effect determination has been made for the proposed project, do not complete Section C (for NLAA determinations only), nor Section D (for LAA determinations only). No notification to FEMA is required.

No consultation with the USFWS is required under the ESA.

☒ **YES (go to B.3)**

B.3. Can the Subapplicant incorporate the general *Avoidance and Minimization Measures* and the species-specific *Conservation Measures* listed in the applicable FEMA PBA-PBO into the proposed project to avoid or minimize effects on federally listed species (including avoiding take⁸ as defined under ESA) and/or their Critical Habitat to levels that are insignificant, discountable, or wholly beneficial?

☐ YES

FEMA has determined that the proposed project May Affect, but is Not Likely to Adversely Affect (NLAA) federally listed species and/or their Critical Habitat. Direct and indirect effects would be insignificant, discountable or wholly beneficial. There are no adverse effects to species or their Critical Habitat. As such, take of individual(s) or destruction/adverse modification to Critical Habitat will not occur. Complete Section C of this form for NLAA determinations. FEMA will notify the USFWS by

⁸ Take: Under the ESA "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct [ESA §3(19)].

submitting the completed ESA Review Form for the proposed project and request that the proposed project be covered under the applicable FEMA PBA-PBO as an NLAA project.

☒ NO

FEMA has determined that the proposed project is Likely to Adversely Affect (LAA) at least one federally listed species and/or their Critical Habitat. Adverse effects to at least one federally listed species or at least one physical or biological feature of Critical Habitat may occur to reach an LAA determination. Complete the relevant portions of Section D of this form for LAA determinations. FEMA will notify the USFWS by submitting the completed ESA Review Form for the proposed project which may request coverage under the Incidental Take Statement (ITS) already included in the USFWS PBO issued to FEMA, if applicable.

SECTION C. ESA REVIEW FOR NLAA DETERMINATIONS FOR PROPOSED PROJECTS UNDER THE APPLICABLE FEMA PBA-PBO

Per the instructions in this form, the highest level of ESA determination for the Proposed Project is utilized; therefore, Section C for NLAA determinations has been deleted as it does not apply to the Proposed Project. See Section D below.

SECTION D. ESA REVIEW FOR LAA DETERMINATIONS FOR PROPOSED PROJECTS UNDER THE APPLICABLE FEMA PBA-PBO

D.1. Briefly describe the species potential to occur onsite (including closest CNDDB occurrences, suitable habitat, etc.) and the potential direct and indirect effects from implementation of the Subapplicant's proposed project in the Action Area. Refer to the applicable FEMA PBA-PBO for a description of potential effects, and describe additional effects as applicable.

California red-legged frog: Suitable breeding and non-breeding aquatic habitat, and upland habitat is present on site. There are numerous documented occurrences of the California red-legged frogs from within the Park within 3 miles of the proposed project (**Attachment A, Figure 3**). Specifically, Occurrence 642, overlaps Pig Pond. This observation identified about 5 adults, 100 juveniles in September 2002, and 3 juveniles and 11 tadpoles in April 2006. At the pond downstream of Bear Hide Pond, Occurrence 641 identified about 5 adults in 2002, and 1 adult and 1 tadpole in 2006. Within Bear Hide Pond, the same occurrence documented 7 adult frogs and 77 tadpoles were documented in May of 2006 in 200. The General Plan for the Park states that the park supports "a large breeding population" and California red-legged frogs have been documented in 7 of 8 permanent stock ponds during surveys conducted in September of 2002. The species has also been documented within Salt Spring Creek and within locations that are seasonally inundated (SPRC 2015).

In addition, the Action Areas are within Designated critical habitat (**Attachment A, Figure 4**) for the California red-legged frog, specifically within Unit STC-2, Wilson Peak. The associated physical and biological features (PBF) are present in the Action Area, including aquatic breeding habitat, non-breeding aquatic habitat, upland habitat and dispersal habitat. The Action Area is also located within the East San Francisco Bay Recovery Unit and is within the Spicer Creek-San Luis Creek California Watershed (USFWS 2006). The species is known to occur in the Action Area.

USFWS. 2002. Recovery Plan for the California red-legged frog (*Rana aurora draytonii*). Region 1. Portland, Oregon. May 2. Available online at:
<https://www.nps.gov/goga/learn/management/upload/-1493-red-legged-frog-plan.pdf>

California tiger salamander: Suitable breeding aquatic habitat and upland habitat is present in the Action Area. However, there are no documented occurrences within the Park; and the closest known occurrence is approximately 2 miles west of Bear Hide Pond. This Occurrence, number 1225, documents the species from within an "impounded waterbody" known as Homestead Pond. Other occurrences are known from Pacheco Creek to the north, and along the North Fork of Los Baños Creek to the south of the Action Areas.

Given the previous surveys of the ponds within the Park, this species may not be present in the Action Areas. However, because suitable habitat exist, the nearby occurrence is from a similar aquatic habitat as present in the Action Areas, and lack of negative results from protocol level surveys, this species cannot be eliminated from consideration.

The Action Area is not located within designated critical habitat for the California tiger salamander (**Attachment A, Figure 4**). However, the Action Area is located within the Southeast Diablo Range Management Unit of the Bay Area Recovery Unit (USFWS 2017). For these reasons, this species has potential to occur in the Action Areas.

USFWS. 2017. Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). Region 8. Sacramento, California. June 6. Available online at: https://www.fws.gov/sacramento/outreach/2017/06-14/docs/Signed_Central_CTS_Recovery_Plan.pdf

- a. **Direct and Indirect Effects on Federally Listed Species (including the potential for take to occur)**
Implementation of the Proposed Project would result in disturbance to habitats suitable for the California red-legged frog and California tiger salamander. These disturbances include disturbance to terrestrial habitat located immediately adjacent to suitable aquatic habitat, and temporary changes in aquatic habitat conditions. The dam embankments would be altered through the excavation, grading and application of earthen fill material that would remove upland refugia (burrows), and would temporarily alter existing aquatic habitat for the species through the use of pumps. These effects would occur during the summer when the species are foraging and would not affect breeding activities.

Changes to or loss of habitat characteristic may occur from grading and rebuilding of the dam embankment, and through the use of pumps. Currently, the embankments contain small mammal burrows that maybe used as upland refugia, and also create a dam safety issue during extreme high water – allow water to seep inside the embankment and cause fissures. Many of the small mammal burrows would be removed; however, over time, small mammal burrows would be expected to naturally re-colonize the embankment thereby restoring pre-disturbance refugia habitat conditions. The use of pumps during the dry season would remove water from the reservoir and would alter the depth and potentially the duration of inundation with the reservoir. These effects would be minimized through the implementation of the additional proposed avoidance and minimization measures identified in Box D.5. Similarly, entrainment within pumps used to dewater the work area would be avoided through implementation of specific measures required for the use of pumps.

The presence of construction equipment and personnel may result in a wide variety of temporary effects on the California red-legged frog and California tiger salamanders. These effects may be direct or indirect, and could lead to injury, harm, harassment, or mortality of the species. Construction of the proposed project could result in the individuals being trampled, crushed or trapped if present in habitats within the project footprint. The physical presence of personnel and operation of equipment would increase noise, and visual disturbance within the Action Area that could lead to changes in behavior or to habitat avoidance. Construction could also temporarily lead to increased dust, erosion, and sedimentation; result in potential spills of hazardous materials; or introduce invasive species or pathogens. Terrestrial movement may be temporary limited due to the presence of construction equipment, personnel, and adverse environmental conditions. Because the Proposed Projects include the use of earthen fill material and restore pre-disaster grades, the Proposed Projects would not create a permanent barrier or otherwise restrict terrestrial movement of California red-legged frogs or California tiger salamanders.

Through implementation of the General AMMs and species-specific Conservation Measures, if a California red-legged frog or California tiger salamander is captured and relocated, adverse effects may occur on the individual(s). Generally, these effects are restricted to harassment, and behavioral effects would be minimal; however, relocation may, in a few instances, result in injury or mortality of the species. Both the relocation efforts and any injury or mortality would be reported to the USFWS; as needed, corrective measures would be implemented to reduce potential harassment, injury and or mortality.

The Proposed Project would provide beneficial effects for the species habitat by stabilizing the dam embankment. Currently, the failed dam embankment provides a source of material that erodes and deposits within the seep downstream of the dam. The Proposed Project would stabilize the eroded portion of the dam, and would reduce the amount of erosion and sedimentation into wetland habitats, thereby providing a beneficial effect for the species.

As a result of project implementation, approximately 0.7-acres of upland habitat at Pig Pond and 0.6-acres of upland at Bear Hide Pond may be directly affected by the proposed project associated with the limits of project footprint associated with the dam embankment repairs, the potential excavation within the borrow areas, and repairs to the low water crossing at Pig Pond. Extensive uplands and aquatic habitats are present in the vicinity of the Action Area, about 0.01 percent of the natural lands at the park would be directly affected by the proposed project. Given the implementation of GEN AMM-26: Water Diversion and Dewatering, CRLF-CTS-13 Pump Screens; and the additional Project-Specific AMMs, take of California red-legged frogs in aquatic habitat is not anticipated.

- b. **Direct and Indirect Effects on Critical Habitat (including effects on specific Physical and Biological Features⁹). If there are adverse effects, quantify the area (in acres, square feet, etc.) of Critical Habitat affected.**

California tiger salamander: N/A; Critical Habitat is not present in the Action Areas, and therefore, the Proposed Project would not result in effects on Critical Habitat.

California red-legged frog: The effects on Critical Habitat would be the same as those described above for the species that are specific to the habitat disturbance and loss. The Proposed Project would result in both temporary and permanent changes to the Physical and Biological Features, including essential aquatic habitat. These effects include disturbance to aquatic, and upland habitat. Specifically, aquatic habitat may be temporarily altered due to the use of pumps, and upland habitat would be altered through the grading of the dam crest and repair of the eroded portions of the embankment. The pumping within the reservoir would result in temporary hydrologic changes, and temporary water quality changes; whereas, the grading and repairs of the dam crest and embankments would remove upland refugia habitat until the small mammal naturally re-colonize the disturbance area.

During construction, temporary effects on the Physical and Biological Features may occur as a result of operation of heavy equipment. These effects include the potential of spills of hazardous materials, increased erosion and dust during construction, and introduction of invasive species or pathogens.

In the long term, the Proposed Projects may provide beneficial effects to the Physical and Biological Features including upland habitats associated with the failed dam embankment. Currently, the failed dam embankment provides a source of material that erodes and deposits within the wetlands downstream of the dam. Once repaired, the embankment would provide stabilized slopes and erosion and sedimentation would not be expected to continue.

D.2. Please list all the general *Avoidance and Minimization Measures* and the species-specific *Conservation Measures* from the applicable FEMA PBA-PBO that would be incorporated into the Subapplicant's proposed project to avoid and minimize direct and indirect effects, and briefly note how they would reduce those effects within the Action Area on the following:

Implementation of the Avoidance and Minimization Measures and species-specific Conservation Measures by the Subapplicant would reduce the potential adverse effects. In some instances these measures lead to avoidance of the effects (such as erosion, sedimentation); in other instances they lead to reduction or minimization of the potential

⁹ Per 81 FR 7414, the physical or biological features refer to the features that are present that are essential to the conservation of the species and may require special management considerations or protection, which were formerly referred to as "Primary Constituent Elements."

effect. For example, presence of a biological monitor, reduced work areas, timing of construction, and entrapment prevention measures would reduce potential adverse effects, but not eliminate potential adverse effects associated with trampling, crushing or entrapment. Many of the same measures would be implemented to reduce potential effects on the PBFs associated with designated critical habitat for the California red-legged frog.

a. Federally Listed Species

General Avoidance and Minimization Measures

GEN AMM-1: Erosion and Sedimentation Prevention Measures
GEN AMM-3: Dust Control Measures
GEN AMM-4: Spill Control Planning
GEN AMM-5: Spill Prevention and Pollution Control Measures
GEN AMM-6: Equipment Inspection and Maintenance
GEN AMM-7: Fueling Activities
GEN AMM-8: Equipment Staging
GEN AMM-9: Materials Storage and Disposal
GEN AMM-10: Fire Prevention
GEN AMM-11: Waste Management
GEN AMM-13: Work Area Designation to Minimize Disturbance
GEN AMM-14: Access Routes and Staging Areas
GEN AMM-15: Environmental Awareness Training for Construction Personnel
GEN AMM-16: Biological Monitor
GEN AMM-17: Daily Work Hours
GEN AMM-18: Entrapment Prevention
GEN AMM-19: Water Quality Protection
GEN AMM-21: Restoration of Upland Areas to Pre-Project Conditions
GEN AMM-22: Invasive Aquatic Species
GEN AMM-23: Work below Mean Higher High Water
GEN AMM-26: Water Diversion and Dewatering

The following general measures are not applicable to this project:

GEN AMM-2: Bank Stabilization - *Not implemented because there is no bank stabilization work proposed, and no removal of riparian vegetation.*
GEN AMM-12: Work Involving Boats and Barges - *Not included because there will not be any boat or barge work.*
GEN AMM-20: Revegetation of Stream Banks - *Not implemented because there is no removal of riparian vegetation.*
GEN AMM-24: Avoidance of Submerged - *Not included because there is no submerged vegetation within the Action Area.*
GEN AMM-25: Minimization of Shading by Overwater Structures - *Not included because there would be no overwater structures.*

CRLF and CTS Specific Conservation Measures

CRLF CTS-1 Biological Monitor
CRLF CTS-2 Seasonal Avoidance
CRLF CTS-3 Rain Event Limitations
CRLF CTS-4 Pre-construction Survey
CRLF CTS-5 Daily Clearance Surveys
CRLF CTS-6 Environmentally Sensitive Areas
CRLF CTS-7 Wildlife Exclusion Fencing
CRLF CTS-8 Entrapment Prevention
CRLF CTS-9 Encounters with Species
CRLF CTS-10 Species Observations and Handling Protocol
CRLF CTS-11 Environmental Awareness Training
CRLF CTS-12 Disease Prevention and Decontamination Procedures
CRLF CTS-13 Pump Screens
CRLF CTS-14 Hand Clear Vegetation

CRLF CTS-16 Accidental Spills, SWPPP, Erosion Control, and BMPs
CRLF CTS-17 Site Restrictions
CRLF CTS-18 Suitable Erosion Control Materials
CRLF CTS-19 Limitation on Insecticide/Herbicide Use
CRLF CTS-20 Limitation on Rodenticide Use
CRLF CTS-21 Invasive Non-Native Plant Species Prevention
CRLF CTS-23 Removal of Non-Native Species
CRLF CTS-24 Restore Contours of Temporarily Disturbed Areas
CRLF CTS-25 Use of Native Plants for Revegetation:
CRLF CTS-26 Practices to Prevent Pathogen Contamination in Revegetation and Restoration

The following CTS CRLF-specific measures are not applicable to this project:

CRLF CTS-15 Wildlife Passage for Road Improvement – *Not implemented because the Proposed Project does not include road improvements.*
CRLF CTS-22 Removal of Diversion and Barriers to Flow – *Not implemented because proposed project would not require diversion of a stream or dewatering of a stream.*

b. Critical Habitat

The same GEN AMMs, and CRLF Conservation Measures listed for the species would also avoid and minimize potential adverse effect on Critical Habitat.

Note: Please note that take (as defined under the ESA) of federally listed species and/or destruction/adverse modification to Critical Habitat may occur under an LAA determination.

D.3. Based on the information provided in Sections D.1 and D.2, is there potential for the Subapplicant's proposed project to result in take of a federally listed species?

☒ YES

FEMA has determined that the proposed project may result in take of at least one federally listed species, and FEMA is requesting coverage under the ITS previously issued from the USFWS to FEMA under the programmatic consultation for ESA Section 7 compliance to be complete. Complete Sections D.4 through D.10 of this form to make an LAA determination and request coverage under the existing ITS. FEMA will notify the USFWS by submitting the completed ESA Review Form for the proposed project.

☐ NO

Complete Sections D.7 through D.10 (skip Sections D.4 through D.6) of this form for LAA determinations. FEMA will notify the USFWS by submitting the completed ESA Review Form for the proposed project.

D.4. Briefly describe the mechanism(s) of take as it may occur from implementation of the Subapplicant's proposed project in the Action Area.

Mechanism(s) of Take

Take, including, injury or mortality, harassment, or harm, may occur through implementation of the proposed project.

Work would occur during the dry season work window when CTS are likely to be in upland areas, and CRLF are likely under shelter in close proximity to aquatic habitats or in aquatic habitats; CRLF and or CTS may be injured or killed during the proposed project as a result of direct encounters with construction equipment or personnel, including excavation of borrow sites and grading of the embankment, burial at the repair sites, and during capture and relocation which requires handling of the species. Such interaction may result in the trampling, crushing or entrapment of the species.

CRLF and or CTS may be harassed during implementation of the proposed project, causing behavioral changes that may expose them to predation, or cause changes in their essential behavior, or cause them to move from refugia

habitat increasing the risk of injury or mortality. These effects may result from visual or acoustic disturbance from the presence of equipment or personnel; result from use of pumps within the reservoir; through handling as a result of capture and relocation activities; or through the presence of construction equipment that may create a temporary barrier to species movement through the project area.

CRLF and or CTS may be harmed during implementation of the proposed project primarily through loss and disturbance to habitat that may impair essential behavior including breeding, feeding, and sheltering. Loss and disturbance to habitats as a result of the proposed project would occur to aquatic, and upland habitats, and within the dam embankment which contains numerous small mammal burrows (refugia). Habitat disturbance may occur as a result of pumping water from the pond may lower the water level or cause the pond to dry at a sooner date, exposure to hazardous materials spills, excavation of borrow sites within natural lands, exposure or introduction of invasive species and pathogens; and erosion, turbidity and sedimentation.

D.5. Describe any additional –project-specific measures that would be implemented to reduce the magnitude of take.

Project Specific AMM-1 Pig Pond Access Route: Access to Pig Pond embankment will occur on dry land. Access will occur below the bank full elevation of the reservoir but only within areas that are sufficiently dry. Access will be monitored and if significant rutting occurs or is anticipated, the contractor will be required to utilize equipment mats or plywood to prevent adverse modifications of the substrate and would be required to restore ruts to pre-disturbance conditions.

Project Specific AMM-2 Borrow Site Limitations: If earthen material is utilized from on-site borrow areas, the Subapplicant will confine the extent of excavation to the areas that were previously disturbed and utilized as part of the original dam construction (scrapes). No areas outside of the previously disturbed areas will be excavated.

Project Specific AMM-3 Water Level Monitoring: Use of pumps within the ponds will be monitored by the qualified biological monitor. Water and pump usage will not cause the pond to dry out, and if the biological monitor determines that use of pumps would result in significant effect on the water level and or listed species, then pumping would cease and water will be obtained solely from offsite sources.

D.6. Provide an estimate of the magnitude of take for each federally listed species that may result from the Subapplicant's proposed project, including:

- Take estimate based on existing population status, if available, otherwise use the area of suitable habitat affected as a surrogate for the take estimate;
- References for any materials utilized to develop these estimates.

a. California red-legged frog - Estimated Take

The number of CRLF individuals that may be encountered within the Action Area is unknown. Based on the take limits associated with the USFWS-Sacramento PBO, the Proposed Project would not exceed the following:

1. Death or injury of more than three juvenile or adult California red-legged frogs per site per year;
2. Death or injury of more than 30 juveniles or adults total for all sites per year; or
3. Death or injury of more than 150 juveniles or adults, as detected during the 5-year duration of the programmatic biological opinion by the FEMA Subapplicants, biological monitors, or other personnel.

b. California tiger salamander – Estimated Take

The number of CTS individuals that may be encountered within the Action Area is unknown. Based on the take limits associated with the USFWS-Sacramento PBO, the Proposed Project would not exceed the following:

1. Death or injury of more than three juvenile or adult California tiger salamanders per site per year;
2. Death or injury of more than 30 juveniles or adults California tiger salamanders total for all sites per year; or
3. Death or injury of more than 150 juveniles or adults California tiger salamanders, as detected

during the 5-year duration of the programmatic biological opinion by the FEMA Subapplicants, biological monitors, or other personnel.

c. References

D.7. Are there any cumulative effects¹⁰ anticipated from implementation of the Subapplicant's proposed project, including construction activities? If so, please describe them.

No other future state, tribal, local or private projects are known from within the Action Area. Cumulative effects are unlikely to occur within the Action Area because the dams are already present, the failure is being repaired, and the proposed project does not entail new or expanded developments. The Action Areas for the proposed project are small. The Subapplicant would continue to implement regular park maintenance activities, however, these activities would occur in accordance with Pacheco Park General Plan (CDPR 2015), and would not likely result in cumulative effects on California red-legged frogs, California tiger salamanders, loss or degradation of their habitat, or adverse effects on PBF associated with California red-legged frog DCH.

D.8. Are there any interrelated¹¹ and/or interdependent¹² actions associated with the Subapplicant's proposed project? If so, please describe them.

No interrelated or interdependent activities have been identified.

D.9. Are there any other FEMA funded projects occurring within 1 mile of the Subapplicant's proposed project? If so, please list the disaster number (DR), Project Worksheet (PW), project name, and distance to this proposed project.

There are no other FEMA-funded projects within 1 mile of the Action Area.

D.10. Provide a summary of FEMA's LAA Determination for Federally Listed Species and Critical Habitat from implementation of the Subapplicant's proposed project. List all the federally listed species and/or Critical Habitat that could be directly or indirectly affected, and summarize those effects as they are presented in this Section. An ESA determination for each federally listed species and/or Critical Habitat is required.

Species: California red-legged frog

Determination Rationale for Species: This project *may affect, and is likely to adversely affect* the California red-legged frog because the proposed project may result in harm, harassment or injury or mortality. CRLF may be injured or killed during implementation of the proposed project through direct encounters with construction equipment or personnel, including excavation and grading, and during capture and relocation by a Service-approved Biologist which requires handling of the species. Changes in the species breeding, feeding or sheltering behavior may result from harm (e.g., through the loss or disturbance to suitable habitats) or harassment (e.g., annoyance of the species to such extent that it causes changes in the species behavior) during implementation of the proposed project. The application of the AMMs would reduce the adverse effects on the species to the maximum extent practicable.

Determination Rationale for Critical Habitat: This project *may affect, and is likely to adversely affect* the Physical and Biological Features of the species because of temporary and permanent modification of the PBF's necessary for the species conservation. The application of the AMMs would reduce the adverse effects.

Species: California tiger salamander

Determination Rationale for Species: This project *may affect, and is likely to adversely affect* the California tiger salamander because the proposed project may result in harm, harassment or injury or mortality. CTS may be injured

¹⁰ Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR §402.02).

¹¹ Interrelated actions are actions that are part of a larger action and depend on the larger action for their justification (50 CFR §402.02).

¹² Interdependent actions are actions having no independent utility apart from the proposed action (50 CFR §402.02).

or killed during implementation of the proposed project through direct encounters with construction equipment or personnel, including excavation and grading, and during capture and relocation by a Service-approved Biologist which requires handling of the species. Changes in the species breeding, feeding or sheltering behavior may result from harm (e.g., through the loss or disturbance to suitable habitats) or harassment (e.g., annoyance of the species to such extent that it causes changes in the species behavior) during implementation of the proposed project.

Determination Rationale for Critical Habitat: Critical habitat for this species does not overlap the Action Area and the proposed project would not result in direct or indirect effects on the critical habitat for this species. Therefore, the proposed project would result in *No Effect* on the designated critical habitat for the California tiger salamander.

SECTION E. FOR THE SACRAMENTO FWO TO COMPLETE AND SIGN

☒ I concur with FEMA's determination on federally listed species and critical habitat as described in this ESA Review Form, pursuant to Section 7 of the Endangered Species Act. The proposed projects are covered activities, and the effects to the listed species presented in this ESA Review Form have been analyzed in FEMA's March 27, 2019, Programmatic Formal Section 7 Consultation of Federal Emergency Management Agency's Disaster, Mitigation, and Preparedness Program within the Sacramento Fish and Wildlife Office Jurisdiction in California (08ESMF00-2018-F-3331-1) (programmatic biological opinion).

☒ Take for listed species presented in Section D of this ESA Review Form are exempt under the March 27, 2019, programmatic biological opinion.

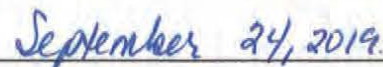
The proposed projects are appended to the March 27, 2019, programmatic biological opinion under Service File Number 08ESMF00-2018-F-3331- 11. Therefore, no further action pursuant to the Act is necessary for the proposed projects unless new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered; or a new species is listed or critical habitat designated that may be affected by the identified action.

☐ I do not concur with FEMA's determination for the following reason(s):

Signature is listed below:



Kellie Berry
Sacramento Valley Division Chief
U.S. Fish and Wildlife Service



Date