DRAFT INITIAL STUDY
MITIGATED NEGATIVE DECLARATION

PACHECO STATE PARK
Pig Pond & Bear Hide Lake Dam Failure

August 2020
SCH#

State of California
California State Parks
Merced County, California

NEGATIVE DECLARATION

PROJECT: **Pig Pond & Bear Hide Lake Pond Dam Failure Project**
LEAD AGENCY: California State Parks
AVAILABILITY OF DOCUMENTS: The Initial Study for this Mitigated Negative Declaration is available for review at:

- Central Valley District Headquarters
  California State Parks
  22708 Broadway St,
  Columbia CA, 95310

- California State Parks
  Northern Service Center
  One Capitol Mall, Suite 410
  Sacramento, CA 95814

- San Luis Reservoir State Park
  Recreation Area HQ
  31426 Gonzaga Rd,
  Gustine, CA 95322

- Los Banos Branch of the Merced
  County Library
  1312 S 7th St,
  Los Banos, CA 93635

PROJECT DESCRIPTION:
DPR proposes to make repairs to two stock pond dams at Pacheco State Park in Merced County, California. Pacheco State Park, formerly a cattle ranch dating back to the 1840s, consists of many stock ponds used for past cattle grazing practices as well as the current grazing lease.

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/Mitigated Negative Declaration may be addressed to:

Andrew Collum, Environmental Coordinator
California State Parks
Central Valley District Headquarters
22708 Broadway St,
Columbia CA, 95310

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR or California State Parks) has independently reviewed and analyzed the Initial Study and Draft Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR, as lead agency, also confirms that the project mitigation measures detailed in these documents are feasible and will be implemented as stated in the Mitigated Negative Declaration.

Danielle Gerhart
District Superintendent

9/20/21
Date

Andrew Collum
Environmental Coordinator

9/20/21
Date

TABLE of CONTENTS

Chapter/Section **Page**

Appendices

CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/ Negative Declaration (IS/ND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Pig Pond & Bear Hide Lake Dam Failure Project at Pacheco State Park, Merced County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq*., and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq*.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements under CEQA Guidelines §15071.

1.2 LEAD AGENCY

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency regarding specific project information is:

Peter Stewart, Project Manager
Central Valley District Headquarters
22708 Broadway St,
Columbia CA, 95310
(209) 536-2915 - office
Peter.Stewart@parks.ca.gov

Questions or comments regarding this Initial Study/Mitigated Negative Declaration should be submitted to:

Andrew Collum, District Environmental Coordinator
Central Valley District Headquarters
22708 Broadway St,
Columbia CA, 95310
(209) 536-2658
Andrew.Collum@parks.ca.gov

Submissions must be in writing and postmarked or received by fax or email no later than thirty days. The originals of any faxed document must be received by regular mail within ten working days following the deadline for comments, along with proof of successful fax transmission. Email or fax submissions must include full name and address. All comments will be included in the final environmental document for this project and become part of the public record.

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the proposed Pig Pond & Bear Hide Lake Dam Failure Project at Pacheco State Park. Mitigation measures have also been incorporated into the project to eliminate any potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
  This chapter provides an introduction to the project and describes the purpose and organization of this document.

- Chapter 2 - Project Description.
  This chapter describes the reasons for the project, scope of the project, and project objectives.

- Chapter 3 - Environmental Setting, Impacts, and Mitigation Measures.
  This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist. Mitigation measures are incorporated, where appropriate, to reduce potentially significant impacts to a less than significant level.

- Chapter 4 - Mandatory Findings of Significance.
  This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.

- Chapter 5 - Summary of Mitigation Measures.
  This chapter summarizes the mitigation measures incorporated into the project as a result of the Initial Study.

- Chapter 6 - References.
  This chapter identifies the references and sources used in the preparation of this IS/MND.

- Chapter 7 - Report Preparation
  This chapter provides a list of those involved in the preparation of this document.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the Environmental (Initial Study) Checklist that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project.

Based on the IS and supporting environmental analysis provided in this document, the proposed Pig Pond & Bear Hide Lake Dam Failure would result in less than significant impacts for the following issues: aesthetics, agricultural resources, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems and wildfire.

In accordance with §15064(f)(3) of the CEQA Guidelines, the lead agency may prepare a mitigated negative declaration if it determines there is no substantial evidence that a project may have a significant effect on the environment. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, with the incorporation of project requirements, the proposed project would have a significant effect on the environment.

This page is intentionally blank.

CHAPTER 2
PROJECT DESCRIPTION

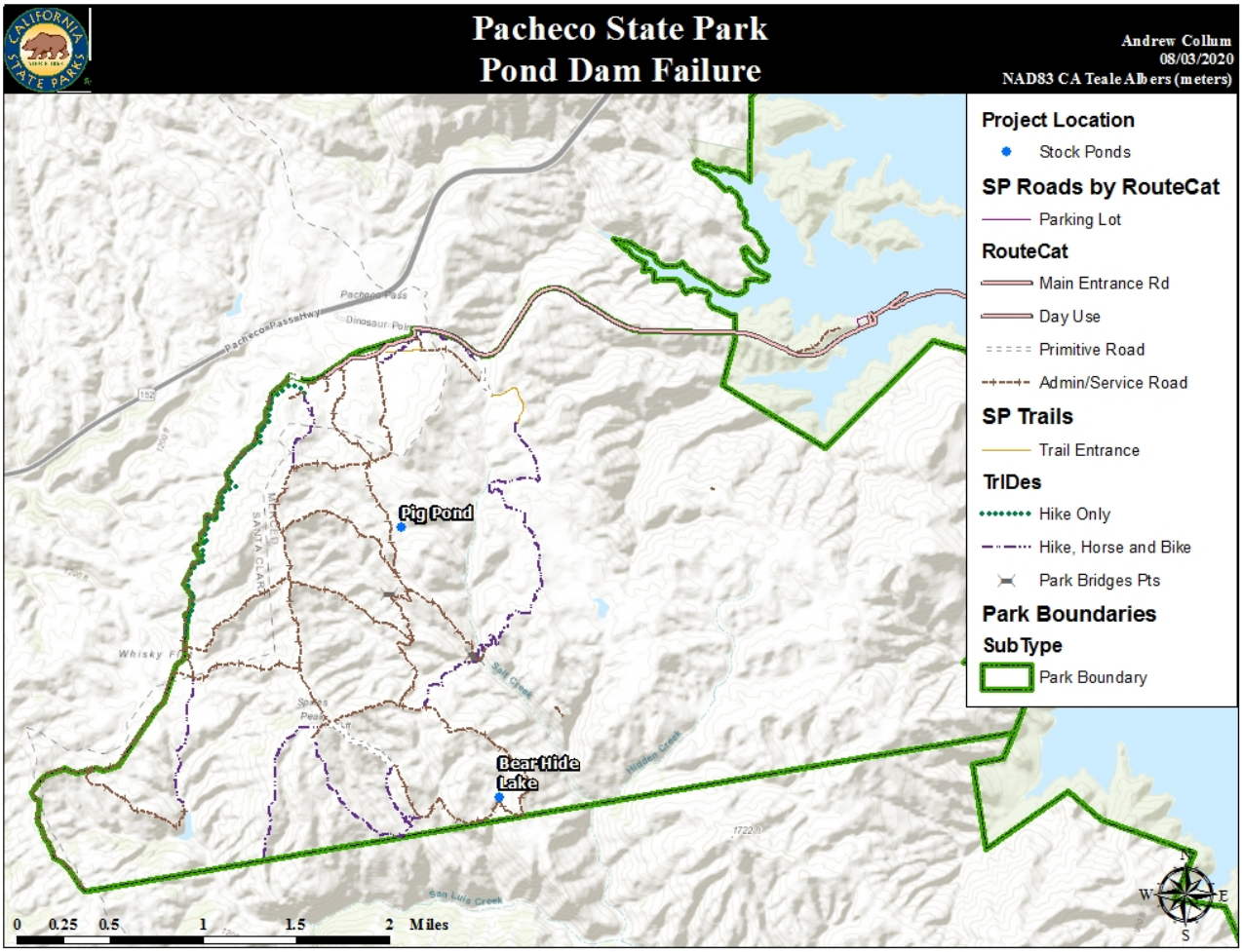
2.1 INTRODUCTION

The California Department of Parks and Recreation (DPR or California State Parks) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to evaluate the potential environmental effects of the proposed Pig Pond & Bear Hide Lake Dam Failure Project at Pacheco State Park (PSP), located in Merced County, California. The proposed project would repair the dams of two historic stock ponds (Pig Pond Dam & Bear Hide Lake Dam). During the winter 2017-rain events, Pig Pond and Bear Hide Lake suffered dam failure. The back face of Pig Pond dam failed, causing massive undermining of the dam face, while Bear Hide Lake dam breached causing the top 5 feet of the dam to wash away along with dam undermining.

2.2 PROJECT LOCATION

Pig Pond is located at 37°2'58" N and 121°12'43.9" W, and is approximately 15 feet H X 100 feet L and impounds a pond approximately one-half acre in surface area. The dam is constructed of undocumented earthen fill with embankment side slopes of approximately 1:1 (horizontal: vertical) on the dry side and 2:1 on the water side and a crest on the order of 8feet (south end) to 15 feet (north end) wide. The dam crest sits approximately 1,400 feet above mean sea level (MSL). The dry side dam embankment slope is predominantly exposed soil with sparse, low weeds and brush while the water side dam embankment slope is exposed soil. The land side embankment and crest show significant erosion (near-breach) from storm activity that occurred in 2017. The land side of the dam has abundant animal-burrows throughout the dam.

Bear Hide Lake is located at 37°1'42.25" N and 121°12'9" W. The existing Bear Hide Lake Dam is approximately 16 feet at its maximum height by 120 feet in length and impounds a pond approximately one-half acre in surface area. The dam is constructed of undocumented earthen fill with embankment side slopes of approximately 3:1 on the dry side and on the water side, with a crest on the order of 10 feet in width. The dam crest is located at an approximate elevation of 1,293 feet above MSL. The dry side and water side dam embankment slopes are predominantly vegetated with grasses. The crest and dry side of the dam show significant erosion (near-breach) from storm damage that occurred in 2017.



2.3 Background and Need for the Project

Pig Pond & Bear Hide Lake Dam Failure project consists of making repairs to two stock pond dams at Pacheco State Park (PSP) in Merced County, California. PSP, formerly a cattle ranch dating back to the 1840s, consists of multiple historic stock ponds used for past cattle grazing practices and the current grazing lease. During the winter 2017-rain events, Pig Pond and Bear Hide Lake suffered dam failure. Pig Pond had the back face of the dam fail causing massive undermining of the dam face while Bear Hide Lake dam breached causing the top 5 feet of the dam to wash away along with dam undermining. The dams present at both locations have extensive damage from animal burrows. According to Geocon Consultants Inc., "these two impoundments are too small to be under the jurisdiction of the California Division of Safety of Dams (DSOD) or other regulatory agency." For both dams, the dam embankments are generally comprised of medium stiff to stiff lean clay with sand, gravel, and cobbles; very dense clayey gravel with sand; and very dense clayey sand with gravel. The dam embankments are underlain by intensely to moderately weathered metasedimentary rock. Both dams were created by excavating native material from the adjacent hillsides.

2.4 PROJECT OBJECTIVES

Repairs to the dam include re-grading the dam to restore it to pre-storm-damaged configuration and to mitigate/remove the animal burrows in Pig Pond Dam, and Bear Hide Lake. California ground squirrels created burrows throughout Pig Pond Dam contributing to damage; therefore, work will include filling of existing burrows and creation of slope conditions that discourage burrowing animals. Dam repairs will be done to maintain California State Parks' obligation to grazing lease maintenance for the farming/livestock business associated with the estate of Paula Marie Fatjo. Which was a required term of the property being donated to California department of Parks and Recreation. These stock ponds are also ideal habitat for the endangered California red-legged frog and California Tiger Salamander.

2.5 PROJECT DESCRIPTION

Work will:

- Equipment will be transported across existing local maintenance roads.
- Equipment transport and/or use will be across dam tops when possible. When equipment needs to traverse or work below dam face, all work between dam face and spillway outlet will be done in a way to minimize damage to downstream channel.
- Bear Hide Lake dam top may be lowered up to 5 feet during repairs to help with equipment stability/mobility for easier dirt handling and compaction.
- Rocks and course materials will be installed in the lower and centers sections of dam to repairs will provide dam stability.
- Fill material will require ground compaction after every 8 inches. Water for ground compaction will be pumped from the pond. Pump to have screen to help prevent harm to amphibians or fish found in the pond.
- Excavation will be stepped into the embankment to allow for keyed and benched placement of native fill to restore the dam embankment to its original configuration.
- Excavate at the base of the embankment slope a keyway at least 5 feet wide, 2 feet deep and extending 5 feet longer than the repair area, to key the replacement fill into the foundational material (weathered bedrock).
- Fill material required to restore the original dam configuration will be mined from the pond side of the dam from the adjacent hillside.
- Repair the breach and create embankment side slopes of 3:1 or flatter, dam crest and spillway configurations that allow for adequate outflow at the spillways.
- Up to 250 cubic yards from hillside and 100 cubic yards from spillway will be used as topsoil reseeding material for the Bear Hide Lake dam face.
- Topsoil from hillside excavation sites will be pushed over to side and stored for redistribution over disturbed sites to help with new vegetation growth.
- Repair any existing burrows by grouting in or filling existing burrows using "Burrow Blocker" or approved equal (filling in burrows with a type of grout/concrete material).
- Spillway outflows will be cleaned out and will lower lake levels to a more manageable level. Final level (elevation) may be up to 2 feet lower than current spillway level with Central Valley District's Senior Environmental Scientist determining the finished elevation. Material excavated from spillways, tops and dam faces with high organic

matter will only be used to resurface dam faces, tops, and hill sides to promote new vegetation growth and help prevent erosion.

- Weed-free straw wildlife friendly wattles will be used on hillsides below excavation sites to help prevent sediment from entering ponds and or stream channels.
- Weed-free straw may be strewn around the hillsides for erosion control purposes. This will be determined after redistribution of native organic material.
- Wattles will be removed after two or three winter seasons, providing enough vegetation (grasses) has grown on hillside to prevent further erosion and sediment run off.

Project Equipment:

All Construction equipment used on this project shall be clean and free of soil and plant material before arrival at the project site and before leaving the park to prevent introduction of invasive, non-native plants into the area.

2.6 PROJECT IMPLEMENTATION

Repairs will be done in the late fall when pond levels are at their lowest and the streams are at their lowest and/or dry.

2.7 VISITATION TO PACHECO STATE PARK

Pacheco State Park experienced 2,272 visitors in 2019

Calendar Year Attendance				
Year	Paid Day Use	Free Day Use	Camping	Total
2014	1148	1715	56	2919
2015	2453	1915	99	4476
2016	1984	849	78	2911
2017	2314	848	110	3272
2018	2360	611	76	3047
2019	2057	194	21	2272
Average	2053	1022	73	3150

2.8 CONSISTENCY WITH LOCAL PLANS AND POLICIES

The quality and quantity of surface water and groundwater and natural hydrological patterns are integral to the Park's physical health. Much of the native flora and fauna depend on the scattered expressions of surface and subsurface waters in the Park. Hydrologic function is related not only to activities that take place in the Park but also to surrounding land uses, as the Park contributes to the regional watershed. Many of the Park stock ponds are man-made and have altered natural drainage patterns and the earthen dams may be structurally deficient.

Pacheco State Park General plan guidelines suggests the inventory, mapping, and evaluation of stock ponds and adjacent dams for removal, maintenance, or restoration as part of a comprehensive management plan. The general plan considers a range of options including removal of stock ponds to restore the natural landscape, reestablish natural watercourses and drainages, and to reduce erosion and the potential for dam failure. All projects done within the park will consider potential effects on special-status plant and wildlife species and evaluate the best solution in coordination with CALFIREW.

2.9 DISCRETIONARY APPROVALS

Any resource agency permits required for dam treatment activities shall be coordinated with the agency with jurisdiction before project implementation, including California Department of Fish and Wildlife.

Incidental Take Permit (ITP) - Section 2081 subdivision (b) of the Fish and Game Code allows CALFIREW to authorize take of species listed as endangered, threatened, candidate, or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met.

Lake and Streambed Alteration Permit- Fish and Game Code Section 1602 requires any entity to notify CALFIREW before beginning any activity that may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake.

CHAPTER 3
ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1.	Project Title:	Pig Pond & Bear Hide Lake Dam Failure
2.	Lead Agency Name & Address:	California Department of Parks and Recreation
3.	Contact Person & Phone Number:	Peter Stewart 209-536-2915
4.	Project Location:	Pacheco State Park
5.	Project Sponsor Name & Address:	California Department of Parks and Recreation Danielle Gerhart, Acting Central Valley District Superintendent Central Valley District 22708 Broadway Street Columbia, CA 95310
6.	General Plan Designation:	Foothill Pasture
7.	Zoning:	State Park
8.	Description of Project:	Refer to Chapter 2, Section 5
9.	Surrounding Land Uses & Setting: Planning)	Refer to Chapter 3 of this document (Section IX, Land Use
10.	Approval Required from Other: Refer to Chapter 2, Section 2.9 Public Agencies	

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	☐ None

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 original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. 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** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

Andrew Collum
Environmental Coordinator

8/20/21
Date

ENVIRONMENTAL ISSUES

I. AESTHETICS.

ENVIRONMENTAL SETTING

Pacheco State Park is located on the eastern slope of the Diablo Range. The Park is about 5 miles long from east to west and 2.5 miles wide from north to south. Approximately 90% of the Park lies within Merced County with the remainder in southeastern Santa Clara County. The Park's eastern boundary adjoins the San Luis Reservoir State Recreation Area.

The Merced County 2030 General Plan (Merced County 2013) designates SR-152, west of I-5 as a State Scenic Highway because of its scenic vistas. In addition to traversing rich agricultural farmlands, a considerable distance of the route provides drivers with views of the extensive San Luis Reservoir. The State has established standards for protecting State designated scenic corridors.

Except as provided in Public Resources Code Section 21099, would the project:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized 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?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION

a-b) **No Impact -** Although SR-152 is designated as a Scenic highway from the Merced-Santa Clara County line to I-5. This project is not visible from SR-152 and will have no impact the scenic highway.

c) **No Impact -** The excavation of surface material from around the pond has the potential to create an unsightly appearance within the landscape for park visitors and will be mitigated over time with the regrowth of vegetation.

d) **No Impact** – Lighting is not an element of this project and no new light sources would be introduced into the landscape. All construction work would be limited to daylight hours, eliminating the need for work lights. Therefore, the impact would be less than significant.

STANDARD PROJECT REQUIREMENT –

STANDARD PROJECT REQUIREMENTS AES - 1: SCENIC VIEWS	• Do not alter viewscapes to expose structures or undesirable views along scenic highways or scenic viewing locations. • Maximize the use of salvaged mature vegetation to reduce the time of regrowth. Rehabilitate and remove all construction related impacts to pre-project or better than pre-project conditions.

MITIGATION MEASURE - NONE

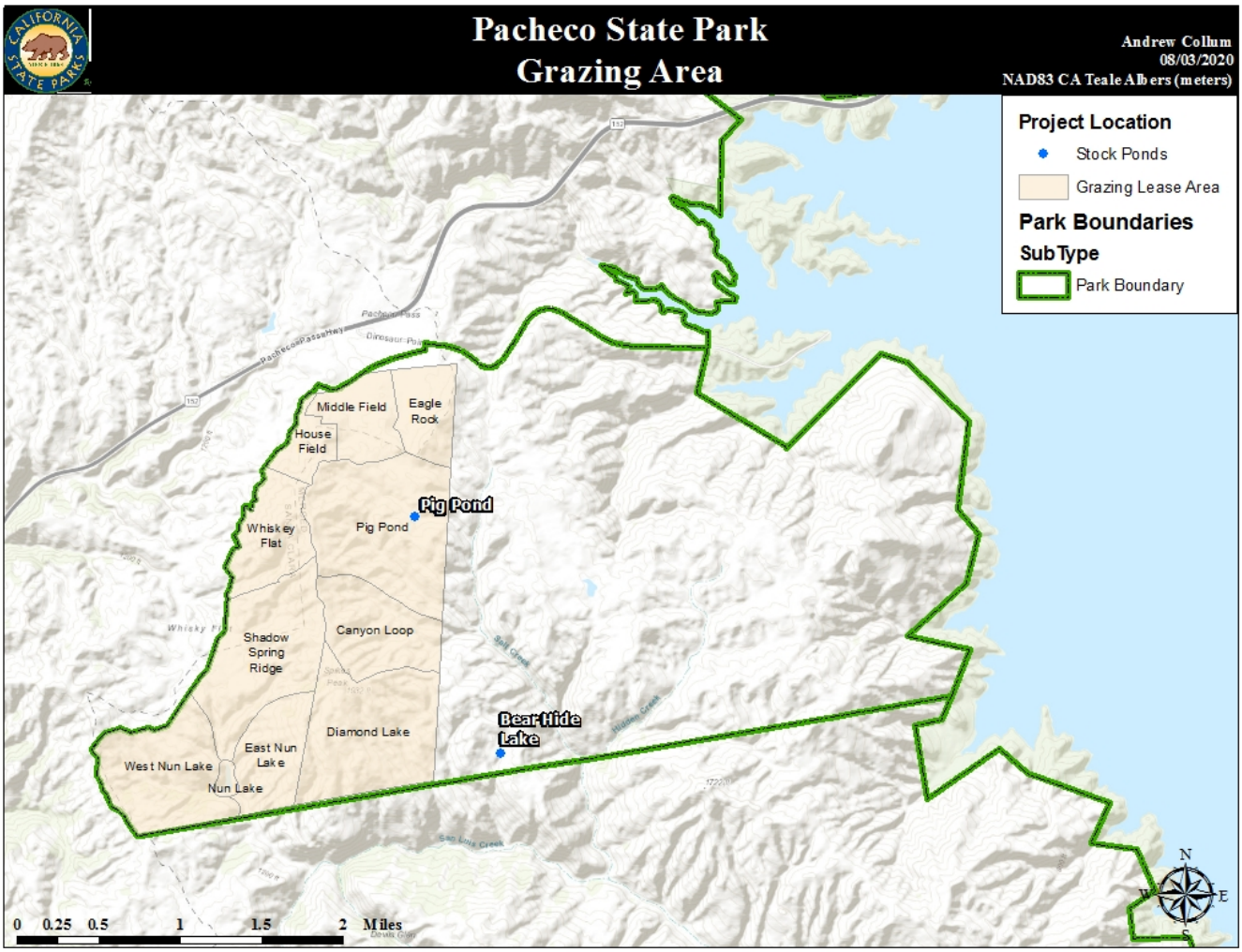
II. AGRICULTURAL AND FOREST RESOURCES.

ENVIRONMENTAL SETTING

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 (CALFIRE) regarding the state's inventory of forestland, 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.

Farmland

California's agricultural resources are monitored by the Farmland Mapping and Monitoring Program (FMMP), under the California Department of Conservation (CDC). Every two years, the FMMP publishes statistical data related to the status of California Farmland. According to their most recent Important Farmland publication for Merced County (2016), the project location is identified as Grazing Land under the FMMP. (Farmland Mapping 2016) The last will and testament of Paula Marie Fatjo, declared that the 6,800 acres that became Pacheco State Park were donated to California State Parks under the stipulation that the donated property continue the operation of the farming or livestock business, belonging to the Fatjo Estate (Fatjo 1995). This project does not qualify for a Williamson act contract.



Would the project:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined in PRC section 4526), or timberland zoned	☐	☐	☐	☒

	Timberland Production (as defined by Government Code section 51104(g))				
d)	Result in the loss of forestland or conversion of forestland to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environmental, which, due to their location or nature could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

DISCUSSION

a-e) **No Impact** - All work proposed as part of this project will be confined within park boundaries. Therefore, this project will have no impact on any category of California Farmland, conflict with any existing zoning for agricultural use or Williamson Act contract or result in the conversion of farmland to non-agricultural use or forestland to non-forest land. Furthermore, the proposed project is not within a timberland production zone and consistent with PRC section 12220(g), which allows for management of forestland for non-forest product uses, including recreation, aesthetics, fish and wildlife, biodiversity, and water quality.

III. AIR QUALITY.

ENVIRONMENTAL SETTING

The project site is located within the California Air Resources Board's (CARB) San Joaquin Valley APCD, whose region includes Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties, and Valley air basin portions of Kern County. The project site is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the U.S Environmental Protection Agency (EPA), Region 9.

CARB makes state area designations for ten criteria pollutants (an air pollutant for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set): level ozone, suspended particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particulates (CARB 2020). In contrast to the State area designations, the EPA makes national area designations for six criteria pollutants: ground-level ozone, particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$), carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide. A pollutant is designated "attainment" if the state standard for that pollutant was not violated at any site in the area for a three-year period. If there was at least one violation of a state standard for a pollutant in the area, it is designated as "nonattainment" for that pollutant (CARB). If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified".

Congress established much of the basic structure of the Clean Air Act in 1970 and made major revisions in 1977 and 1990. The Federal Clean Air Act established National Ambient Air Quality Standards (NAAQS). These standards are divided into primary and secondary standards. Primary standards are designed to protect public health and secondary standards are designed to protect other values. Because of the health-based criteria identified in setting the NAAQS, the air pollutants are termed "criteria" pollutants. California has adopted its own, more stringent, ambient air quality standards (CAAQS 2021). The NAAQS and CAAQS attainment status of Merced County is presented in Table 1 (2021).

Table 1

Pollutant	*State Designation*	*National Designation*
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	N/A
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing particles	Unclassified	N/A

TABLE 2

Equipment Type	ROG LBS./DAY	NOx LBS./DAY	CO LBS./DAY	SO2 LBS./DAY	PM10 LBS./DAY	PM2.5 LBS./DAY
Crawler Tractor	0.47	5.63	3.24	0.01	0.22	0.20
Off-Highway Trucks	0.33	3.18	1.92	0.01	0.12	0.11
Plate Compactors	0.02	0.09	0.08	0.00	0.00	0.00
Pumps	0.09	0.76	0.82	0.00	0.04	0.04
Excavator	1.79	21.31	12.13	0.03	2.44	0.93
Loaders/Backhoes	0.15	1.85	0.81	0.00	0.06	0.06
Total	2.85	32.82	19.00	0.05	2.89	1.34
SJVAPCD Significance	55	55	548	148	82	82
Exceed Significance	No	No	No	No	No	No

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	POTENTIALLY SIGNIFICANT IMPACT	LES S THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

DISCUSSION

a) **No Impact** - The work proposed would not conflict with or obstruct the implementation of any applicable air quality management plan for SJVAPCD.

b) **Less than Significant Impact** - Implementation of the proposed project would not result in the ongoing operation of any new emissions sources. Conditions would remain generally unchanged, thus, there will be minimal impact related to long-term emissions of criteria air pollutants and ozone

precursors, but there will be temporary emissions. The short duration of construction and small project footprint will result in impacts of which are not significant. Table 2 presents summary of construction related emissions against SJVAPCD Significance Thresholds. Construction assumptions used in the model are provided by the modeling software CalEEMod.2016.3.2.

c) **Less Than Significant Impact** - Project construction activities would not emit air contaminants at a level that, by themselves, would violate any local, state, or federal ambient quality standard, or contribute to a permanent or long-term increase in any air contaminant. Short-term construction emissions will be limited by implementation of **AIR-1**. Compliance with these standards will reduce air.

d) **Less Than Significant Impact** - The project will not generate any long-term objectionable odors. During the construction of the project there may be short-term objectionable odors from large equipment exhaust, but they will be limited by implementation of **AIR-1**.

STANDARD PROJECT REQUIREMENT –

STANDARD PROJECT REQUIREMENT **AIR-1: EMISSIONS OF FUGITIVE DUST AND OZONE**	• All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions while in use by large machinery for project actions. • All trucks hauling soil or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. • All construction related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all state and federal requirements. • Potential dust producing actions will be suspended if sustained winds exceed twenty five (25) miles mph, instantaneous gusts exceed thirty five (35) mph, or dust from construction might obscure driver visibility on public roads. • Earth or other material that is transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed. • Idling time will be minimized to ten (10) minutes for all diesel-powered equipment. • Stockpiles of material that are susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material.

STANDARD PROJECT REQUIREMENT **AIR-2: MATERIAL STORAGE AND DISPOSAL**	• Stockpiled soils will be adequately covered to prevent sedimentation from runoff and wind. All hazardous materials will be stored in upland areas in storage trailers and/ or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted provided the same containment precautions are taken as described for hazardous materials storage. All construction materials, wastes, debris, sediment, rubbish, trash, and fencing will be removed from the site once project construction is complete and transported to an authorized disposal area, as appropriate, in compliance with applicable Federal, State, and local laws and regulations. No disposal of construction materials or debris will occur in a floodplain.

MITIGATION MEASURE - NONE

IV. BIOLOGICAL RESOURCES.

ENVIRONMENTAL SETTING

Located on the crest and eastern slope of the Diablo Range, the natural vegetation on the Project site is generally dominated by open grasslands, oak savannah, and oak woodlands on gently to steeply-sloped terrain. Smaller areas of chaparral and sage scrub, California sycamore woodland, native grasslands, as well as several small ponds and seeps, occur intermittently across the landscape. Riparian vegetation is found along the few drainages and small canyons that occur on the site. All vegetation communities occurring on the Project site were characterized and mapped in 2018. Pacheco State Park, including the Project site was historically used as a cattle ranch and Pig Pond is located within the leased grazing area. The project site is generally characterized by oak savannah, patches of scrub vegetation, and grassland in gentle to moderately sloped topography. As proposed, the project will repair two stock pond dams located in the south-west portion of Pacheco State Park and their repair may result in the minor and temporary loss of habitat for listed and endangered species; however, the repair will create a more stable habitat, long-term, that is no longer threatened.

SPECIAL-STATUS WILDLIFE SPECIES

In total, the Official Species List identified six (6) wildlife species that are federally listed as threatened or endangered, are proposed to be listed as threatened or endangered, and have recorded occurrences in the vicinity of the Project Areas, and/or have the potential to occur based on historic range and suitable habitat within two miles of the Project Site. However, based on the absence of suitable habitat and/or lack of confirmed sightings withing the Project Site, four (4) wildlife species were not expected in the project vicinity and, as such, not likely to be affected by the stock pond repairs. These species included: the Hall's bush mallow (*Malacothamnus hallii*), Western pond turtle (*Actinemys marmorata*), Northern harrier (*Circus hudsonius*), and American badger (*Taxidea taxus*). For those species recorded on-site, information on their relative abundance, habitat associations, observation notes, and general locations, are described below (FEMA 2018).

<u>California Red Legged Frog:</u>

California Red Legged Frog (*Rana Draytonii*) is a federally listed threatened species which occupies a fairly distinct habitat, combining both specific water (aquatic) and upland (terrestrial) components. California red-legged frog habitat includes areas within 1-2 miles of a breeding site that stays moist and cool through the summer (USFW CRLF 2011). California red-legged frogs can breed at sites with dense shrubby riparian or emergent vegetation or can proliferate in ponds devoid of emergent vegetation and any apparent vegetative cover (i.e., stock ponds). There are numerous documented occurrences of the California red-legged frogs in the Park, specifically, occurrence 642 overlapping Pig Pond. This observation identified 5 adults, 100 juveniles in September 2002, and 3 juveniles and 11 tadpoles in April 2006 (CNDDB 2021). At a pond downstream of Bear Hide Lake, occurrence 641 identified 5 adults in 2002, and 1 adult and 1 tadpole in 2006 (CNDDB 2021). Within Bear Hide Lake, the same occurrence documented 7 adult frogs, and 77 tadpoles were documented in May of 2006 (CNDDB 2021). The General Plan for Pacheco State Park states that the park supports "a large breeding population" of California red-legged frogs and populations have been documented in 7 of the 8 permanent stock ponds during surveys conducted in September of 2002 (CNDDB 2021).

California Tiger Salamanders

California Tiger Salamanders (*Ambystoma californiense*) is a Federally listed Endangered species which requires upland habitat that is occupied by small burrowing mammals such as California ground squirrel (*Otospermophilus beecheyi*) which create underground burrow systems utilized by the salamanders throughout the year (USFW CTS 2017). Suitable breeding aquatic and upland habitat is present in the proposed project area. However, there are no documented occurrences within the Park; and the closest known occurrence is approximately 2 miles west of Bear Hide Lake. This Occurrence, number 225, documents the species within an "impounded waterbody" known as Homestead Pond. Other known occurrences are located along Pacheco Creek to the north, and along the North Fork of Los Banos Creek to the south of the proposed Project area. Given the previous surveys of Pig Pond and Bear Hide Lake, this species may not be present in the proposed Project area. However, because suitable habitat exists at Pig Pond and Bear Hide Lake, the nearby species occurrence from similar aquatic habitat, and lack of negative results from protocol level surveys, this species cannot be eliminated from consideration (CNDDB 2021).

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LES S THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
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 or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or	☐	☐	☐	☒

	impede the use of native wildlife nursery sites?				
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION: 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 till material that would remove upland refugia, 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. Currently, the embankments contain small mammal burrows that maybe used as upland refugia, and also create a dam safety issue during extreme high water - allowing 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 mitigation measures. Similarly, species entrapment within pumps used in 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 salamander habitat. 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 Project Area that could lead to changes in behavior or 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 temporarily limited due to the presence of construction equipment, personnel, and adverse environmental conditions. Because the Proposed Project includes the use of earthen fill material and restoration of pre-disaster grades, the Proposed Project 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).

The Proposed Project would provide beneficial effects for the species habitat by stabilizing the dams 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 Lake may be directly affected by the Proposed Project. Extensive upland and aquatic habitats are present in the vicinity of the Project Area. Approximately 0.0l 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 (FEMA 2017).

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 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 embankments 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.

STANDARD OR SPECIFIC PROJECT REQUIREMENTS AND MITIGATION MEASURE

STANDARD MITIGATION MEASURES

AMM-13 Work Area Designation to Minimize Disturbance:

- DPR will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever possible, existing vegetation will be salvaged from the project area and stored for replanting after earthmoving activities are completed. Topsoil will be removed, stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into covered species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible. Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.

AMM-14 Access Routes and Staging Areas:

- When working on stream banks or floodplains, disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to sensitive habitats (e.g., stream banks, stream channel, and riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/ or work will be performed from the top of the stream banks. After completion of the work, the contours of the streambed, vegetation, and stream flows will be returned to their pre-construction condition or better.

- All staging and material storage areas, including the locations where equipment and vehicles are parked overnight, will be placed outside of the flood zone of a watercourse, above areas of tidal inundation, away from riparian habitat or wetland habitat, and away from any other sensitive habitats. When possible, staging and access areas will be situated in areas that are previously disturbed, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation.

AMM-14 Access Routes and Staging Areas:

- When working on stream banks or floodplains, disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to sensitive habitats (e.g., stream banks, stream channel, and riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/ or work will be performed from the top of the stream banks. After completion of the work, the contours of the streambed, vegetation, and stream flows will be returned to their pre-construction condition or better.
- All staging and material storage areas, including the locations where equipment and vehicles are parked overnight, will be placed outside of the flood zone of a watercourse, above areas of tidal inundation, away from riparian habitat or wetland habitat, and away from any other sensitive habitats. When possible, staging and access areas will be situated in areas that are previously disturbed, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation.

AMM-15 Environmental Awareness Training for Construction Personnel:

- All construction personnel will be given environmental awareness training by the project's environmental inspector or biological monitor before the start of construction. The training will familiarize all construction personnel with the covered species that may occur onsite, their habitats, general provisions and protections afforded by the Act, measures to be implemented to protect these species, and tl1e project boundaries. This training will be provided within three days of the arrival of any new worker.
- As part of the environmental awareness training, construction personnel ·will be notified that no dogs or any other pets under control of construction personnel will be allowed in the construction area, and that no firearms will be permitted in the construction area, unless carried by authorized security personnel or law enforcement.

AMM-16 Biological Monitor:

- If a project involves activities that may result in take of a covered species, as defined by the Act, a Service-approved biologist will be present onsite for all construction activities that occur within 100 feet of habitat for those species. If a Service-approved biologist is needed, DPR will submit the biologist's qualifications to the Service for approval 30 days prior to project construction. The Service-approved biologist will ensure that all applicable avoidance and minimization measures in the programmatic biological opinion are implemented during project construction. The Service-approved biologist will also ensure that all vehicles entering the site are free of debris that may harbor organisms that could be introduced to the site, such as vegetation or mud from other aquatic areas. The Service-approved biologist will also ensure that turbidity, sedimentation, and the release of materials such as dust or construction runoff are controlled, and that spill

control measures are enacted properly. The Service-approved biologist will oversee construction activities to ensure that no covered species and/ or their habitats are adversely affected. The Service-approved biologist will have the authority to stop any work activities that may result in potential adverse effects to covered species and/ or their habitats.

AMM-18 Entrapment Prevention:

- To prevent entrapment of covered species, all vertically sided holes or trenches will be covered at the end of the workday, or have escape ramps built into the walls of the excavation. If pipes are stored onsite or in associated staging areas, they will be capped when not in use. Construction materials that have the potential to entangle or entrap wildlife will be properly contained so that wildlife cannot interact with the materials. If a covered species is identified onsite, crews will immediately stop work within 50 feet of the individual, and inform the construction supervisor and the Service-approved biologist. Work will not continue within 50 feet of the individual until it has traveled off the project site of its own volition. For covered species, please refer to the species-specific Conservation Measures section of the programmatic biological opinion.

AMM-19 Water Quality Protection:

- Contractors will exercise every reasonable precaution to protect covered species and their critical habitats from construction byproducts and pollutants, such as construction chemicals, fresh cement, saw-water, or other deleterious materials. Fresh cement or uncured concrete will not be allowed to come into contact with any waterway. Construction waste will be collected and transported to an authorized upland disposal area, as appropriate, and per Federal, State, and local laws and regulations. DPR will follow the best management practices described in *The Use if Treated Wood Products in Aquatic Environments* guidelines (NOAA Fisheries 2009). Although this guidance focuses on the effects of the contaminants on Pacific salmonids protected under the Act, this guidance may still apply for general water quality protection and other federally-protected species. This guidance will be used in conjunction with site-specific evaluations of other potential impacts. Riprap will be clean and durable, free from dirt, sand, clay, and rock fines and will be installed to withstand the 100-year flood event. If applicable, appropriate measures will be taken to minimize disturbance to potentially contaminated sediments.

GEN AMM-21 Restoration of Upland Areas to Pre-Project Conditions:

- For projects that require restoration of upland areas to pre-project conditions as a result of ground disturbance during construction activities, DPR will use native plants to the maximum extent practicable. Similarly, when hydroseeding, only native seed mix will be used.

GEN AMM-22 Invasive Aquatic Species:

- DPR will follow the guidelines in the California Department of Fish and Wildlife's (CDFW's) *California Aquatic Invasive Species Management Plan* to prevent the spread of invasive aquatic plant and animal species (CDFW 2008). Construction equipment will be clean of debris or material that may harbor seeds or invasive pests before entering the work area. This debris or material includes dirt on construction equipment, tools, boots, pieces of vegetation, and water in

the bilge of boats. All aquatic sampling equipment will be sterilized using appropriate guidelines before its use in aquatic habitats.

GEN AMM-23 Work below Mean Higher High Water:

- In freshwater, estuarine, and marine areas that support covered species, disturbance to habitat below mean higher high water will be limited to the maximum extent possible.

AMM-26 Water Diversion and Dewatering:

- In-channel work and channel diversion of live flow during project construction will be conducted in a manner to reduce impacts to covered species. Dewatering will be used to create a dry work area and will be conducted in a manner that minimizes turbidity into nearby waters. Water diversion and dewatering will include the following measures:
  a. Heavy equipment will avoid flowing water other than temporary crossing or diverting activities.
  b. If covered species may be present in the areas to be dewatered, relocation will be conducted by a Service-approved biologist in accordance with applicable Service species-specific Conservation Measures. Because this measure involves take of a species, it is only applicable to covered species for which an Incidental Take Statement is provided.
  c. Water pumped or removed from dewatered areas will be treated before its release so that it does not contribute to turbidity in nearby waters.
  d. Temporary culverts to convey live flow during construction activities will be placed at stream grade and be of an adequate size as to not increase stream velocity.
  e. Silt fences or mechanisms to avoid sediment input to the flowing channel will be erected adjacent to flowing water if sediment input to the stream may occur.

CRLF and CTS Specific Conservation Measures

CRLF CTS-2 Seasonal Avoidance:

- Project activities will be scheduled to minimize adverse effects to the California red-legged frog and California tiger salamander and their habitat. Disturbance to upland habitat will be confined to the dry season, generally May 1 through October 15 (or the first measurable fall rain of 1" or greater) because that is the time-period when California red-legged frogs and California tiger salamanders are less likely to be moving through upland areas. However, if unavoidable, conduct grading and other disturbance in pools and ponds only when they are dry, typically between July 15 and October 15. Work within a pool or wetland may begin prior to July 15 if the pool or wetland has been di-y for a minimum of 30 days prior to initiating work.

CRLF CTS-3 Rain Event Limitations:

- To the maximum extent practicable, no construction activities will occur during rain events or within 24 hours following a rain event. Prior to construction activities resuming, a DPR-approved biologist will inspect the Project Area and all equipment/materials for the presence of California red-legged frogs and California tiger salamanders. Construction may continue 24 hours after the rain ceases if no precipitation is forecasted within 24-hours. If rain exceeds 0.5 inches during a 24-hour period; work will cease until no further rain is forecasted. The Service may approve modifications to this timing on a case-by-case basis.

CRLF CTS-4 Pre-construction Survey:

- No more than 24 hours prior to the date of initial ground disturbance and vegetation clearing, a DPR-approved biologist with experience in the identification of all life stages of the California red-legged frog and California tiger salamander and designated critical habitat will conduct a pre-construction survey at the project site. The survey will consist of walking the project limits and within the project site to determine possible presence of the species. The DPR-approved biologist will investigate all areas that could be used by California Red Legged Frogs and California tiger salamanders for feeding, breeding, sheltering, movement, and other essential behaviors, such as small woody debris, refuse, burrows entries, etc.

CRLF CTS-5 Daily Clearance Surveys:

- The DPR-approved biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may result in take of California red-legged frogs and California tiger salamanders.

CRLF CTS-6 Environmentally Sensitive Areas:

- Prior to the start of construction, Environmentally Sensitive Areas (ESAs) - defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed - will be clearly delineated using high visibility orange fencing. The ESA fencing will remain in place throughout the duration of the proposed action, while construction activities are ongoing, and will be regularly inspected and fully maintained at all times. The final project plans will depict all locations where ESA fencing will be installed and will provide installation specifications. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction related activities including vehicle operation, material and equipment storage, access roads and other surface-disturbing activities ,within ESAs. With prior approval from the Service, a hybrid ESA/WEF fencing material that is both hi-visibility and impermeable to wildlife movement may be used in place of paired ESA fencing and WEF fencing. Also with prior approval from the Service, an exception to the foregoing fencing measures may apply on a case-by-case basis during the following situations: (1) at work sites where the duration of work activities is very short (e.g., 3 days or less), the work activities occur during the dry season, and the installation of ESA fencing will result in more ground disturbance than from project activities; or (2) at work sites where the substrate (i.e., rock, shale, etc.) or topography (i.e., slopes> 30 degrees) inhibit the safe and proper installation of fencing materials. In these cases, biological monitoring will occur during all project activities at that site.

CRLF CTS-7 Wildlife Exclusion Fencing:

- Prior to the start of construction, Wildlife Exclusion Fencing (WEF) will be installed at the edge of the project footprint in all areas where California red-legged frogs and California tiger salamanders could enter the construction area. The onsite Project Manager and the DPR-approved biologist will determine location of the fencing prior to the start of staging or surface disturbing activities.
    a. Exclusion fencing will be at least 3 feet high and the lower 6 inches of the fence will be buried in the ground to prevent animals from crawling under. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface.

b. Such fencing will be inspected and maintained daily by the DPR-approved biologist until completion of the project and removed only when all construction equipment is removed from the site
c. The WEF specifications will be included the final project plans and in the bid solicitation package (special provisions) and will include the WEF specifications including installation and maintenance criteria.
d. The WEF will remain in place throughout the duration of the project and will be regularly inspected and fully maintained. Repairs to the WEF will be made within 24 hours of discovery. Upon project completion the WEF will be completely removed, the area cleared of debris and trash, and returned to natural conditions.
e. With prior approval from the Service, an exception to the foregoing fencing measures may apply on a case-by-case basis during the following situations: 1) at work sites where the duration of work activities are very short (e.g., 3 days or less), the work activities occur during the dry season, and the installation of exclusion fencing will result in more ground disturbance than from project activities; or (2) at work sites where the substrate (i.e., rock, shale, etc.) or topography (i.e., slopes> 30 degrees) inhibit the safe and proper installation of fencing materials. In these cases, species monitoring will occur during all project activities at that site. Modifications to this fencing measure may be made on a case-by-case basis with approval from the Service.
f. With prior approval from the Service, a hybrid ESA/WEF fencing material that is both high visibility and impermeable to wildlife movement may be used in place of paired ESA fencing and WEF fencing.

CRLF CTS-8 Entrapment Prevention:

- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 6 inches deep will be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. The DPR-approved biologist will inspect all holes and trenches at the beginning of each workday and before such holes or trenches are filled. All replacement pipes, culverts, or similar structures stored in the Project Area overnight will be inspected before they are subsequently moved, capped, and/ or buried. If at any time a California red-legged frog or California tiger salamander is discovered, the onsite Project Manager and DPR approved biologist will be notified immediately and the DPR-approved biologist will implement the species observation and handling protocol. If handling is necessary, work will be suspended until the appropriate level of coordination is complete.

CRLF CTS-9 Encounters with Species:

- Each encounter with a California red-legged frog or California tiger salamander will be treated on a case-by-case basis. If any life stage of the California red-legged frog or California tiger salamander is found and these individuals may be killed or injured by work activities, the following will apply:
  a. If California red-legged frogs or California tiger salamanders are detected in the Project Area, work activities within 50 feet of the individual that may result in the harm, injury, or death to the animal will cease immediately and the onsite Project Manager and DPR-approved biologist will be notified. Based on the professional judgment of the DPR-approved biologist,

if project activities can be conducted without harming or injuring the California red-legged frog and California tiger salamander, it may be left at the location of discovery and monitored by the DPR-approved biologist. All project personnel will be notified of the finding and at no time will work occur within 50 feet of a California red-legged frog and California tiger salamander without a DPR-approved biologist present.

b. To the maximum extent possible, contact with the individual frog or salamander will be avoided and it will be allowed to move out of the hazardous situation of its own volition. This procedure applies to situations where a California red-legged frog and California tiger salamander is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species if the individual moves away from the hazardous location.

CRLF CTS-10 Species Observations and Handling Protocol:

- If a California red-legged frog or California tiger salamander does not leave the work area, the DPR-approved biologist will implement the species observation and handling protocol outlined below. Only DPR-approved biologists will participate in activities associated with the capture, handling, relocation, and monitoring of California red-legged frogs and California tiger salamanders.
  a. Prior to handling and relocation, the DPR-approved biologist will take precautions to prevent introduction of amphibian diseases in accordance with the Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (Service 2003c). Disinfecting equipment and clothing is especially important when biologists are coming to the Project Area to handle amphibians after working in other aquatic habitats. California red-legged frogs and the Sonoma and Central California tiger salamanders will also be handled and assessed according to the Restraint and Handling of Live Amphibians (USGS National Wildlife Health Center 2001).
  b. California red-legged frogs and California tiger salamanders will be captured by hand, dip net, or other DPR-approved methodology, transported and relocated to nearby suitable habitat outside of the work area and released as soon as practicable the same day of capture. Individuals will be relocated no greater than 300 feet outside of the project site to areas with an active rodent burrow or burrow system (unless otherwise approved by the Service and with written landowner permission). Holding/transporting containers and dip nets will be thoroughly cleaned, disinfected, and rinsed with freshwater prior to use within the Project Area. The Service will be notified within 24 hours of all capture, handling, and relocation efforts.
  c. If an injured California red-legged frog or California tiger salamander is encountered and the DPR-approved biologist determines the injury is minor or healing and the salamander is likely to survive, the salamander will be released immediately, consistent with measure 12.b above. The California red-legged frogs and the Sonoma and Central California tiger salamander will be monitored until it is determined that it is not imperiled by predators or other dangers.
  d. If the DPR-approved biologist determines that a California red-legged frog or California tiger salamander has major or serious injuries as a result of project-related activities the DPR-approved biologist, or designee, will immediately take it to a DPR-approved facility. If taken into captivity the individual will remain in captivity and not be released into the wild unless it

has been kept in quarantine and the release is authorized by the Service. DPR will bear any costs associated with the care or treatment of such injured California red-legged frogs or California tiger salamanders. The circumstances of the injury, the procedure followed and the final disposition of the injured animal will be documented in a written incident report to the Service as described below.

e. Notification to the Service of an injured or dead California red-legged frog or California tiger salamander in the Project Area will be made and reported whether or not its condition resulted from project-related activities. In addition, the DPR-approved biologist will follow up with the Service in writing within 2 calendar days of the finding. Written notification to the Service will include the following information: the species, number of animals taken or injured, sex (if known), date, time, location of the incident or of the finding of a dead or injured animal, how the individual was taken, photographs of the specific animal, the names of the persons who observe the take and/ or found the animal, and any other pertinent information. Dead specimens will be preserved, as appropriate, and will be bagged and labeled (i.e. species type; who found or reported the incident; when the report was made; when and where the incident occurred; and if possible, the cause of death). Specimens will be held in a secure location until instructions are received from the Service regarding the disposition of the specimen.

CRLF CTS-11 Environmental Awareness Training:

- Prior to the start of construction, a DPR approved biologist with experience in the ecology of the California red-legged frog and California tiger salamander as well as the identification of all its life stages will conduct a training program for all construction personnel including contractors and subcontractors. Interpretation for non-English speaking workers will be provided. All construction personnel will be provided a fact sheet conveying this information. The same instruction will be provided to any new workers before they are authorized to perform project work. The training will include, at a minimum:
    - Habitat within the Project Area;
    - An explanation of the species status and protection under state and federal laws;
    - The avoidance and minimization measures to be implemented to reduce take of this species;
    - Communication and work stoppage procedures in case a listed species is observed within the Project Area; and
    - An explanation of the importance of the Environmentally Sensitive Areas (ESAs) and Wildlife Exclusion Fencing (WEF).

CRLF CTS-12 Disease Prevention and Decontamination Procedures:

- To ensure that diseases are not conveyed between work sites by the DPR-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times. A copy of the code of practice can be found in Appendix Chapter 5.

CRLF CTS- 13 Pump Screens:

- If a water body is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 5 millimeters and the intake will be placed within a perforated bucket or other method to attenuate suction to prevent California red-legged frogs and California

tiger salamanders from entering the pump system. Pumped water will be managed in a manner that does not degrade water quality and upon completion be released back into the water body, or at an appropriate location in a manner that does not cause erosion. No rewatering of the water body is necessary if sufficient surface or subsurface flow exists to fill it within a few days, or if work is completed during the time of year the water body will have dried naturally. To avoid effects to eggs and larvae, work within seasonal ponds will be conducted when the pond has been dry naturally for at least 30 days.

CRLF CTS- 14 Hand Clear vegetation:

- Hand clear vegetation in areas where California red-legged frogs and California tiger salamanders are suspected to occur. All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site. A DPR approved biologist will be present during all vegetation clearing and grubbing activities. Prior to vegetation removal, the DPR-approved biologist will thoroughly survey the area for California red-legged frogs and California tiger salamanders. Once the DPR-approved biologist has thoroughly surveyed the area, clearing and grubbing may continue without further restrictions on equipment; however, the DPR-approved biologist will remain onsite to monitor for California red-legged frogs and California tiger salamanders until all clearing and grubbing activities are complete.

CRLF CTS- 16 Accidental Spills, SWPPP, Erosion Control, and BMPs:

- Prior to the onset of work, a plan will be in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to implement if a spill occurs. Storm-water pollution prevention plans and erosion control BMPs will be developed and implemented to minimize any wind- or water-related erosion. These provisions will be included in construction contracts for measures to protect sensitive areas and prevent and minimize storm-water and non-storm-water discharges. Protective measures will include, at a minimum:
    - No discharge of pollutants from vehicle and equipment cleaning is allowed into any storm drains or watercourses.
    - Vehicle and equipment fueling and maintenance operations must be at least 50 feet away from aquatic or riparian habitat and not in a location where a spill may drain directly toward aquatic habitat, except at established commercial gas stations or at an established vehicle maintenance facility. The monitor will implement the spill response plan to ensure contamination of aquatic or riparian habitat does not occur during such operations.
    - Concrete wastes will be collected in washouts and water from curing operations is to be collected and disposed of properly. Neither will be allowed into watercourses.
    - Spill containment kits will be maintained onsite at all times during construction operations and/ or staging or fueling of equipment.
    - Dust control will be implemented, and may include the use of water trucks and non-toxic tackifiers (binding agents) to control dust in excavation and fill areas, rocking temporary access road entrances and exits, and covering of temporary stockpiles when weather conditions require.

- Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, etc. along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas. No erosion control materials that use plastic or synthetic monofilament netting will be used.
- Permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from paved roads or other impervious surfaces will be incorporated to the maximum extent practicable.
- All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any aquatic habitat, culvert, or drainage feature.

CRLF CTS- 17 Site Restrictions:

- The following site restrictions will be implemented to avoid or minimize effects on the listed species and its habitat:
    - A speed limit of 15 miles per hour (mph) in the project footprint in unpaved areas will be enforced to reduce dust and excessive soil disturbance.
    - Construction and ground disturbance will occur only during daytime hours, and will cease no less than 30 minutes before sunset and may not begin again earlier than 30 minutes after sunrise.
    - Except when necessary for driver or pedestrian safety, to the maximum extent practicable, artificial lighting at a project site will be prohibited during the hours of darkness.
    - Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.
    - To the maximum extent practicable, any borrow material will be certified to be non-toxic and weed free.
    - All food and food-related trash items will be enclosed in sealed trash containers and properly disposed of offsite.
    - No pets will be allowed anywhere in the Project Area during construction.

CRLF CTS- 18 Suitable Erosion Control Materials:

- To prevent California red-legged frogs and California tiger salamanders from becoming entangled, trapped, or injured, erosion control materials that use plastic or synthetic monofilament netting will not be used within the Project Area. This includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers. Following site restoration, erosion control materials, such as straw wattles, will not block movement of the California red-legged frog and California tiger salamander.

CRLF CTS- 19 Limitation on Insecticide/Herbicide Use:

- Insecticides or herbicides will not be applied at the project site during Construction where there is the potential for these chemical agents to enter creeks, streams, waterbodies, or uplands that contain habitat for the California red-legged frog and California tiger salamander.

CRLF CTS-20 Limitation on Rodenticide Use:

- No rodenticides will be used at the project site during construction or long-term operational maintenance in areas that support suitable upland habitat for the California red-legged frog and California tiger salamander.

CRLF CTS-21 Invasive Non-Native Plant Species Prevention:

- The DPR-approved biologist will ensure that the spread or introduction of invasive non-native plant species, via introduction by arriving vehicles, equipment, imported gravel, and other materials, will be avoided to the maximum extent possible. When practicable, invasive non-native plants in the Project Area will be removed and properly disposed of in a manner that will not promote their spread. Areas subject to invasive non-native weed removal or disturbance will be replanted with appropriate mix of fast-growing native species. Invasive non-native plant species include those identified in the California Invasive Plant Council's (Cal-IPC) Inventory Database, accessible at: www.calipc.org/ip/inventory/ index. php.

CRLF CTS-23 Removal of Non-Native Species:

- A DPR-approved individual will permanently remove from within the Project Area, any individuals of non-native species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The DPR is responsible for ensuring that these activities are in compliance with the California Fish and Game Code. No conversion of seasonal breeding aquatic habitat to perennial aquatic breeding habitat is allowed under this programmatic biological opinion. Creating new perennial water bodies in the vicinity of California red-legged frog or California tiger salamander populations where the ponds could be colonized by predators will also be avoided. Larval mosquito abatement efforts will be avoided in occupied breeding habitat for the species.

CRLF CTS-24 Restore Contours of Temporarily Disturbed Areas:

- Habitat contours will be returned to their original configuration at the end of project activities in all areas that have been temporarily disturbed by activities associated with the project, unless the DPR and the Service determine that it is not feasible, or modification of original contours will benefit the California red-legged frog and California tiger salamander.

CRLF CTS-25 Use of Native Plants for Revegetation:

- Plants used in revegetation will consist of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. This measure will be implemented in all areas disturbed by activities associated, with the project, unless the DPR and the Service determine that it is not feasible or practical. Preferred emergent vegetation includes spike rushes (Eleocharis spp.), rushes (Juncus spp.), bulrushes (Schoenoplectus spp.), cattails (Typha spp.), and willows (Salix spp.).

CRLF CTS-26 Practices to Prevent Pathogen Contamination in Revegetation and Restoration:

- The DPR will refer to the following restoration design considerations and practices to help prevent pathogen contamination in revegetation and restoration as published by the Working Group for *Phytophthora* in Native Habitats in order to address the risk of introduction and spread of *Phytophthora* and other plant pathogens in site plantings:

a) Design restoration with lower initial plant density. Planting large quantities of nursery plants increases the likelihood that some of those plants may be infested with *Phytophthora* or other plant pathogens. The greater the number of plants installed the higher the risk for pathogen introduction. The closer the plants are to one another the higher the likelihood of pathogen spread.
b) To the extent possible, use direct seeding of native plant seeds or cuttings instead of container stock. Planting locally collected seeds or cuttings rather than installing container stock can minimize the risk of introducing pathogens to a site.
c) Ensure the use of clean nursery stock. To prevent and manage the introduction and spread of *Phytophthora* and other plant pathogens during revegetation and restoration activities, it is essential that projects use clean nursery stock grown with comprehensive best management practices.
d) Prevent contamination in site preparation, installation, and maintenance. Implementing best management practices to prevent pathogen introduction and spread is also critical during all other phases of revegetation and restoration to reduce contamination risk. For detailed guidance on how to prevent and manage *Phytophthora* during various aspects of restoration, including nursery plant production, see The Phytophthora in Native Habitats Work Group "Restoration Guidance" at www.calphytos.org.
e) Reduce the potential for pathogen spread and introduction due to movement or use of non-sanitized vehicles, tools, footwear or inadvertent use of contaminated materials (e.g. soil erosion protection wattles and mulch, or non-sanitized materials recycled from other projects such as rebar, fencing materials, etc.). Fundamental principles include:
    I. Minimize project footprint and soil disturbance. Keep the number of vehicles passthroughs and other disturbances during site activities to the least necessary. Avoid visits when conditions are wet, and areas are muddy. Park vehicles in designated staging areas.
    II. Follow sanitation practices. *Phytophthora* and many other pathogens move when contaminated soil is transferred on vehicle tires, footwear, on contaminated tools or infested plant materials. Follow sanitation best management practices: tools, boots, and vehicles will be visibly free of soil before and after use.
    III. Promote prevention through education. Ensure that onsite personnel are aware of the risk of inadvertent pathogen introductions and understand how to prevent pathogen introduction and spread. A pre-project meeting that provides appropriate BMP training to all workers and oversight managers who will be onsite during the project will help avoid confusion and delays in the field and will ensure in advance that everyone understands the project goals related to pathogen prevention.

V. CULTURAL RESOURCES.

ENVIRONMENTAL SETTING

Pacheco State Park has been grazed by domestic cattle ranchers for over 150 years. Cattle grazing has been shown to have significant impacts on native ecosystems throughout the West, resulting in "the widespread and rapid replacement of the dominant native, perennial grasses with native and imported annual species that die back rapidly during the summer months" (Waghorn 2006: 10). The long history of cattle ranching in Pacheco State Park has undoubtedly shaped the ecosystems we see today.

PREHISTORIC ARCHAEOLOGICAL CONTEXT

Much of what we know about the local archaeological record stems from a series of archaeological studies that took place prior to construction of the San Luis Reservoir in 1967. The Pacheco State Park General Plan (2006) cites a number of archaeological investigations related to the flooding of the San Luis Creek drainage (Nissley 1975; Olsen and Payen 1968, 1969, 1983; Pritchard 1970, 1983; Romoli and Ruby 1963). Archaeological research from this period helped Olsen and Payen (1969) and Moratto (1984) develop a chronological framework for the region. Moratto's (1984) framework encompasses the greater southern San Joaquin Valley, extending to the central and southern Sierra Nevada foothills. Based on this collective framework, the following chronology contains four general timeframes with associated periods, dates, and temporal markers: Paleoindian (Paleoindian Period), Early Archaic (Early Period), Middle Archaic (Middle Period), and Late Archaic (Late Period). A description of each of these periods is presented below.

Paleoindian Period (ca. 12,000 to 9000 BP)

Archaeological evidence indicates that human inhabitants were present in the southern San Joaquin Valley approximately 12,000 years ago. One of the most significant Paleoindian sites in the regions is the Witt Site (CA-KIN-32). Originally located on the southwest shore of Tulare Lake, it contained fluted projectile points, scrapers, crescents, and Lake Mojave series points (Moratto 1984:81-82). At an elevation of 192 feet, Tulare Lake likely represented a "major lake level for a considerable span of time" (Riddell and Olsen 1969:121). Investigations near the Witt Site led by Fenenga (1993) found additional fluted projectile points along with tools indicative of later time periods. With the combined assessment of Tulare Lake's timespan and the evidence of artifacts from multiple cultural periods, it is estimated that the Tulare Lake Basin sustained human occupation from the Paleoindian Period until European contact (Giacinto et al. 2019).

During the Paleoindian Period groups were likely small and mobile, with high levels of residential mobility. There are no sites from the Paleoindian Period documented in Pacheco State Park to date (California State Parks 2006: 2-23).

Early Period (ca. 9000 to 6000 BP)

Like the Paleoindian Period, sites dating to the Early Period are extremely rare in the San Joaquin Valley; however, hand-molded baked clay net weights, Olivella and Haliotis shell beads and ornaments, charmstones, and stemmed projectile points have been identified in components dating to this period (Giacinto et al. 2019:18-19). Milling equipment such as mortars, pestles, millingstones, and handstones are not commonly associated with site dating to this period of time. Due to the scarcity of sites, it is difficult to characterize the Early Period beyond broad hypotheses. Subsistence strategies appear to have

varied across the San Joaquin Valley and throughout California. Known sites include Skyrocket (CA-CAL-629 and CA-CAL-930) in the Sierra Nevada, which contain a mixture of projectile point types (such as fluted, stemmed, and Pinto points) and some of the earliest mortars and pestles in California (Giacinto et al. 2019). Subsistence strategies may have varied significantly based on location and availability of different resources, such as the abundance of large game, access to fish and shellfish, and seasonal vegetation. Bone artifacts are uncommon. Burials are typically fully extended, oriented to the west, and generally have associated artifacts (e.g., quartz crystals). Cremations are rare (Moratto 1984:181–182; Sutton 1997:12).

Middle Period (ca. 6000 to 3000 BP)
About 6,000 years ago, the climate became warmer, and there appears to have been a shift towards more generalized subsistence patterns across the San Joaquin Valley and the Sierra Nevada foothills (Giacinto et al. 2019: 19). Hunting and fishing remain important subsistence strategies, but the archaeological record indicates an increased emphasis on seed and acorn processing. Artifacts demonstrating this shift include a greater variety of grinding tools, such as cobble mortars and chisel-ended pestles, and bone tools such as awls, saws, flakers, and fish spear tips, which indicate an increasing specialization of tool-making. Additional artifacts in this time period include *Olivella* and *Haliotis* beads, distinctive spindle-shaped charmstones, and large projectile points (Giacinto et al. 2019: 19). Burials are tightly flexed and have few associated artifacts. At the same time, there is a slight increase in the number of cremations. Additionally, disarticulated skeletons – often with weapon points embedded – appear in burial assemblages, possibly indicating an increase in territoriality (Moratto 1984:183).

In the San Luis and Pacheco Pass region, this period has been called the Positas Complex, with radiocarbon dates ranging from 5,300 to 4,600 BP (California State Parks 2006: 2-23). One of the lower cultural assemblages at CA-MER- 94, located in the modern San Luis Reservoir, suggests increased sedentism and longer-term settlements (Olsen and Payen 1969). Artifacts from this complex include perforated flat cobbles, flake scrapers, small shaped mortars, short cylindrical pestles, and a variety of milling slabs.

Late Period (ca. 3000 to 150 BP)
The Late Period is categorized by a shift in subsistence strategies away from systems based on hunting and fishing, towards heavy reliance on acorn and plant processing (Giacinto et al. 2019: 20). Throughout California a decrease in residential mobility led to increased sedentism and larger villages. Artifacts of all types become more diverse and specialized, especially with the introduction of the bow and arrow in 1500 to 700 BP (Giacinto et al. 2019: 20). With the shift towards acorn-based subsistence strategies, grassland and savanna burning was also adopted as part of land management practices in order to increase oak productivity and ecological health.

The majority of known archaeological sites in both Pacheco State Park and the adjacent San Luis Reservoir State Recreation Area are from this time period.

ETHNOGRAPHIC CONTEXT

The project area is located near the ethnographic boundaries of the Northern Valley Yokuts and the Ohlone (Costanoan). Although the Yokuts appear to have been the primary group in the region, evidence suggests strong coastal influences by Ohlone groups. Olsen and Payen (1969) suggest that Western Yokut people living near the Pacheco Pass region would have had just as much in common with the

Ohlone, as the Northern Valley Yokut. This is an opinion shared by Kroeber (1925). Contact between costal and interior tribal groups through the Pacheco Pass trade route would have facilitated exchange of goods and cultural ideas throughout prehistory.

Both Ohlone and Yokuts are subgroups of the Penutian linguistic group spoken by populations that moved south from Oregon, displacing Hokan speaking groups (Golla 2011). Miwok, Yokuts, and Costanoan represent three subfamilies of this initial Penutian linguistic flow, of which Costanoan and Miwok are a distinct sub-branch ("Utian") from Yokuts (Golla 2007). The following section provides summaries on the ethnographic range and lifeways of each group.

Northern Valley Yokuts

The Northern Valley Yokuts inhabited the lower San Joaquin River watershed and its tributaries extending from Calaveras River in the north to the San Joaquin River near Mendota. The lower San Joaquin River meanders through Yokut territory. The banks of the river supporting a rich set of resources as it winds through the valley. Farther from the rivers and marshes, the valley floor would have been dry and less resource dense (Wallace 1978, Kroeber 1925).

Northern Valley Yokuts villages were commonly along rivers and major tributaries, often on eastern banks (Kroeber 1925). West of the San Joaquin, populations were lower with villages and hamlets tucked into the foothills. The focus on waterways resulted in subsistence economies which relied heavily on fish, waterfowl, antelope, elk, acorns, tule roots, and various seeds. The focus on fishing is seen in the artifact assemblages with high densities of net sinkers and harpoons, likely used from rafts constructed from tule reed (Wallace 1978).

Traditional villages were perched on top of low mounds on or near riverbanks. Northern Valley Yokut dwellings were constructed of woven tule reed mats placed on pole frames often oval or round in structure. They were usually 25 to 40 feet in diameter and would belong to a single family (Wallace 1978). Villages often featured earth-covered ceremonial sweat lodges. Larger villages and settlements may have had 200-300 inhabitants guided by a headman. There was a high level of sedentism due to abundant riverine resources, with seasonal forays to harvesting ripening plant resources (Kroeber 1925). Seasonal camps and resource-based satellite sites were also common, with both of these focusing on activities such as hunting and acorn gathering.

The material culture of the Northern Valley Yokuts was as varied as the environments inhabited. Bed rock mortars and portable hopper mortars have been identified in Yokut sites along with metates and handstones. Baskets were produced in a spectrum of sizes and shapes, each suited to a particular task and adorned with patterns. Exotic material such as marine fish and shellfish were obtained through trade with Ohlone groups. Obsidian was procured from various distant sources. Beads and other decorative ornaments are also recovered from Northern Valley Yokut sites.

The Northern Valley Yokuts saw a sharp, devastating decline after European contact as disease and forced relocation to Spanish Missions disrupted traditional lifeways (Osbourne 1992). Cultural disruption only increased with the large influx of European settlers after the gold rush (Osbourne 1992); however, there are efforts by modern descendants to continue traditional cultural practices and bring awareness to many environmental and cultural topics related to traditional Yokut culture and history.

Ohlone (Costanoan)

The Ohlone primarily occupied the Central California but may have had influence as far east as the Diablo Mountain Ranges, where they may have overlapped with the Northern Valley Yokut in the vicinity of Pacheco Pass. The Ohlone were organized in villages with associated camps that formed tribelet territories (Levy 1978). These tribelets varied in size, ranging from 50 people to 500 people, with an approximate average of 200 people (Levy 1978). Villages organized around extended patrilineal families with a designated chief and council. Coastal villages and formal structures were often built on the bluff away from the sea. Further inland, permanent villages were constructed along major waterways with satellite sites located in resource specific collection areas. The most common burial practice at the time of European contact was cremation, which has been documented in the Pacheco Pass and San Luis Gonzaga area.

Ohlone groups were known to practice anthropogenic burning in grassland and oak savanna ecosystems, which promoted growth in seed-bearing plants. Burning also reduced the spread of chaparral ecosystems which increased grazing areas for deer and elk (Levy 1978). The Ohlone diet relied heavily on marine resources, supplemented with terrestrial staples including acorn, nuts, seeds, greens, and bulbs. Terrestrial game including deer, pronghorn, tule elk, rabbit and waterfowl were also taken.

Pre-contact Ohlone houses are poorly understood due to the influences of missionization, however Kroeber describes them as pole structures with a roof composed of brush or tule matting (Kroeber 1925: 468). Non-residential structures included sweathouses, dance houses, and assembly houses. Obsidian was imported from exotic sources. Acorn crops from coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) were an important staple. Groundstone handstones, pestles, portable mortars, and milling slabs are common ethnographic assemblages. Bedrock mortars are also common where bedrock was of sufficient quality. The Ohlone traded shell ornaments, animal furs, salt, shellfish, and other items with neighboring Miwok, Yokut and Patwin groups. Olivella and abalone beads were used as currency.

The arrival of the Spanish settlers had devastating impacts on the Ohlone. The first colonizers were Franciscan priests who established costal missions as early as 1769. Over the next five decades, they forced Ohlone populations to adopt Christianity and work in exploitative agricultural systems. As increasing waves of settlers arrived traditional land use patterns and were severely disrupted. Today modern Ohlone people are reestablishing cultural practices and reclaiming their heritage through cultural research and preservation.

HISTORIC-ERA CONTEXT

The following provides a brief history of the project area beginning with the Spanish Period (1769-1822). The Mexican Period (1822-1848) and the America Period (1849-Present) follow. The American Period is broken into subsections that highlight two regional themes of particular relevance to the current project: Transportation and Ranching.

Spanish Period (1769–1822)

The first Spanish Mission in Alta California was established in San Diego in 1769. A total of 21 missions were constructed by Dominican and Franciscan orders between 1769 and 1823, including San Francisco de Asís 1776), Santa Clara de Asís (1776), San José de Guadalupe (1797 in Alameda County), San Rafael Arcángel (1817 in Marin County), and San Francisco Solano (1823 in Sonoma County; Grunsky 1989). The first Spaniards arrived in the San Joaquin Valley in 1772, led by don Pedro

Fages (California State Parks 2006). In 1805, a Spanish expedition led by Gabriel Moraga traveled across Pacheco Pass on a traditional Yokut trail. (Crosby 2003). According to Crosby (2003: 7), "his party found a watering hole and good camping site in the area and named it in honor of Saint Luis Gonzaga." This name would be attached to the region in perpetuity.

Mexican Period (1822–1848)

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s brought significant change to the region. Having successfully established the Mexican republic, the new government began selling extremely large Land Grants to affluent Mexican citizens and rancheros. Francisco Rivera was granted 48,821 acres of the land grant known as Rancho de San Luis Gonzaga. However, it was stipulated that "a habitable house be built on the property within one year" (Crosby 2003: 7). When this was not fulfilled, Juan Pérez Pacheco and José María Mejía petitioned Governor Micheltorena in 1843 to transfer the title to Rancho de San Luis Gonzaga to them. Crosby (2003) speculates that Mejía's close ties to the Governor secured the deal. Within three days of the transfer José María Mejía gave his half to Pacheco, making him the sole owner. Pacheco immediately built a "habitable house" on his new property, which became known as the Gonzaga Adobe. The remains of this structure were moved to Pacheco Sate Park prior to construction of the San Luis Reservoir Dam.

American Period (1849 – Present)

Two themes characterize this period in regional history. The first is transportation. Pacheco Pass has been an important travel corridor since prehistoric times, connecting the San Joaquin Valley to Santa Clara Valley. The second is Cattle Ranching, which has been the primary industry in the Diablo Range during the American Period. The following section focuses on the San Luis Gonzaga Ranch and is organized around these themes.

Transportation

Pacheco Pass is an important transportation route linking the Central California Coast and Central Valley. The California Gold Rush (1849), followed by discovery of gold in the Kern River (1853), brought increased travelers across Pacheco Pass. The Gonzaga adobe was transformed into a popular gambling hall and diner for miners traveling to and from various gold fields (Crosby 2003). The hills and canyons of the Diablo Range became a favorite locale for bandits and outlaws, including Joaquin Murieta. Local legend reports that they frequently took refuge at natural springs in the San Luis Gonzaga area.

Increased traffic and banditry drove the Pacheco family to Monterey for their safety in 1851. The extensive Pacheco holdings were leased to Pacheco's son-in-law, Mariano Malarin. Malarin continued to run cattle in the area, which he sold to meat suppliers in San Francisco and the Sierra Nevada Foothills. The adobe and original ranch complex were likely abandoned after 1851 and eventually became a stop for Murieta and his gang. In 1853 a group of State Rangers - led by Los Angeles deputy sheriff Harry Love - cornered Murieta several other men at the Gonzaga Adobe. With the odds stacked against them, Murieta and his gang managed to escape (California State Parks 2006: 2-28)

Changes in commerce and demands for trade routes made Pacheco Pass an appealing travel corridor. Andrew Firebaugh capitalized on this opportunity, building a formal toll road through Pacheco

Pass in 1857. A year later, stage lines were regularly run through the pass. Whisky Flat Road is believed to follow Firebaugh's original alignment (California State Parks 2006). State Highway 152 follows a number of historic-era alignments, which can be identified on historic topographic maps and aerial photographs.

The function of the Gonzaga Adobe evolved with the Pacheco Pass travel corridor. After being abandoned, the Gonzaga Adobe was repurposed as stagecoach and mail stop once the Firebaugh Toll Road was established (1858-1861). It was turned into a blacksmith shop, inn and café during a period between 1924 and the 1930s and was eventually converted to a gas station and roadside stop (California State Parks 2006). Additional buildings were constructed over time including a two-story structure built by Malarín in 1853, which stood until 1935 when it was intentionally burned to the ground (Crosby 2003). Paula Fatjo, a fifth-generation Pacheco descendant, moved into the adobe in 1948 and remodeled the building to be the living room of her house. In 1962, the adobe and Paula's primary ranch was claimed for the development of the new San Luis Reservoir. Preparations were made to relocate the adobe to Pacheco State Park. Unfortunately, the walls of the adobe collapsed during transit. Only the end walls remain at its current location (Crosby 2003).

Cattle Ranching

The Rancho San Luis Gonzaga Land Grant was deeded to Juan Perez Pacheco in 1843. Ten years later the land was transferred to Mariano Malarin, who transformed the ranch to match commercial and ranching needs. Crosby (2003) provides an overview of the different owners of the San Luis Gonzaga Ranch, all of whom are descended from Francisco Pacheco in some way and are all connected by their common economic pursuit: cattle. A review of this specific family history demonstrates the time depth and importance of cattle ranching in the Diablo Range.

Pacheco left his estate to his daughter Isidora Pacheco de Malarín and her husband Mariano Malarín. The elder Malaríns left the ranch to their second daughter, Paula Malarín de Fatjo. Upon her death in 1917, the ranch passed to her son, Clemente Fatjo. Clemente Fatjo died in 1921, at the age of 27. The ranch passed to his daughter, Paula Marie Fatjo, born in 1920. In 1948 Paula Fatjo moved into the Gonzaga Adobe, maintaining the family cattle ranch. After the development of the San Luis Reservoir, Ms. Fatjo continued ranching operations from her new home and headquarters. This collection of buildings is one of the central features of the Gonzaga-Pacheco-Fatjo Archaeological district. Ms. Fatjo passed away in 1992 in Gilroy, California. In 1995, her estate donated 6,890 acres of the Rancho San Luis Gonzaga to the State of California, resulting in the formal establishment of Pacheco State Park in 1997. The only condition of the donation was that grazing permits be issued to local ranches within the Park boundaries.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒

b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☒
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

DISCUSSION

a) **No Impact -** The field visit confirmed that heavy rains in 2017 significantly impacted both hydrologic features. If no action is taken these relics of historic-era ranching will seasonally erode and eventually be destroyed. The proposed project will rehabilitate these features and restore them to their original state. As a result, the project is not considered an impact to either resource. The proposed repairs will slow the natural weathering that threatens to destroy these historic-era features.

b) **No Impact -** In compliance with PRC 5024 and 5024.5 and Section 106, State Parks completed an intensive cultural resource study of the project locations to identify any cultural resources present within the project Area of Potential Effect (APE). This effort included an archival record search, a review of historical maps and aerial photography, and pedestrian survey. The record search did not identify previously recorded resources within the project APE; however, both project locations are within the Gonzaga-Pacheco-Fatjo Archaeological District (P-24-001856/P-43-001839). A review of historic aerial photographs demonstrates the project stock ponds were constructed between 1939 and 1955. Given the age of the ponds and their location within an archaeological district, they are recorded as features of the district as a part of this study. No additional cultural resources were identified in the project APE, other than the stock ponds themselves.

c) **No Impact -** Burials have not been documented or recorded in the APE; however, there is always a potential of unanticipated discoveries of human bone. If any human remains or burial artifacts were identified, implementation of Standard Project Requirement **CULT- 2** below would reduce the impact to a less than significant level.

STANDARD PROJECT REQUIREMENT

STANDARD PROJECT REQUIREMENT CULT-1: MONITORING	• At the discretion of the project archaeologist, a DPR-qualified archaeologist will monitor ground-disturbing activities for this project. The archaeologist will have the authority to stop construction work in the area of the find and evaluate it and implemented appropriate treatment measures to avoid having a significant impact to historical resources per PRC 15064.5.
STANDARD PROJECT REQUIREMENT CULT-2: HUMAN REMAINS OR BURIAL ARTIFACTS	• In the event that human remains were discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor

	would be responsible for notifying the appropriate Native American authorities. • If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination. • If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC or Tribal Cultural Representatives will also occur as necessary to define additional site mitigation or future restrictions.
STANDARD PROJECT REQUIREMENT CULT-3: UNDOCUMENTED CULTURAL RESOURCES	• In the event that previously undocumented cultural resources are encountered during project construction (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash), work within the immediate vicinity of the find will stop until DPR-qualified cultural resource specialist has evaluated the find and implemented appropriate treatment measures to avoid have a significant impact to historical resources per PRC 15064.5

PROJECT SPECIFIC REQUIREMENT: NONE

VI. ENERGY.

ENVIRONMENTAL SETTING

State Title 20 and Title 24, under the California Code of Regulations, state new buildings constructed in California must comply with the standards contained in Title 20, Public Utilities and Energy, and Title 24, Building Standards Code, of the California Code of Regulations. These efficiency standards apply to new construction of both residential and nonresidential buildings, and they regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines.

In addition to California's building energy efficiency standards, there are 167 wind turbine generators installed by a private operator, Scout Clean Energy, across the tops of several ridges at PSP (EIR 2018). The wind generators capture and convert wind energy to electrical energy, and their performance coincidentally illustrates the duration and strength of the winds through Pacheco Pass. The wind season is recognized as March through October, when 90% of annual electrical production occurs. Using the conversion of wind energy to electrical production as a measure of strength, on average, net electrical production is 22.5-23 million kWh per year. The wind farm was repowered by Scout Clean energy in 2018 and has plans for renewed wind turbines with a potential output of 197 MW (Scout Energy 2018).

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

DISCUSSION

a) **No Impact** - Construction activities would consume energy through the operation of heavy equipment, trucks and worker traffic. The contractor would use only as much heavy equipment as needed to construct the project, which would not result in wasteful, inefficient, or unnecessary consumption of energy resources during the project construction.

b) **No impact** - The Project would not conflict with or obstruct any state or local plan for renewable energy or energy efficiency.

STANDARD OR SPECIFIC PROJECT REQUIREMENT - NONE
MITIGATION MEASURE - NONE

VII. GEOLOGY AND SOILS.

ENVIRONMENTAL SETTING

The Surface Mining and Reclamation Act (SMARA) mandates the California Geological Survey (CGS) to provide economic-geologic expertise to assist in the projection and development of mineral resources through the land-use planning process. The primary products are mineral land classification maps and reports created by CGS' Division of Mines and Geology. Mineral land classification address specific types of mineral deposits that occur in specific geographical areas.

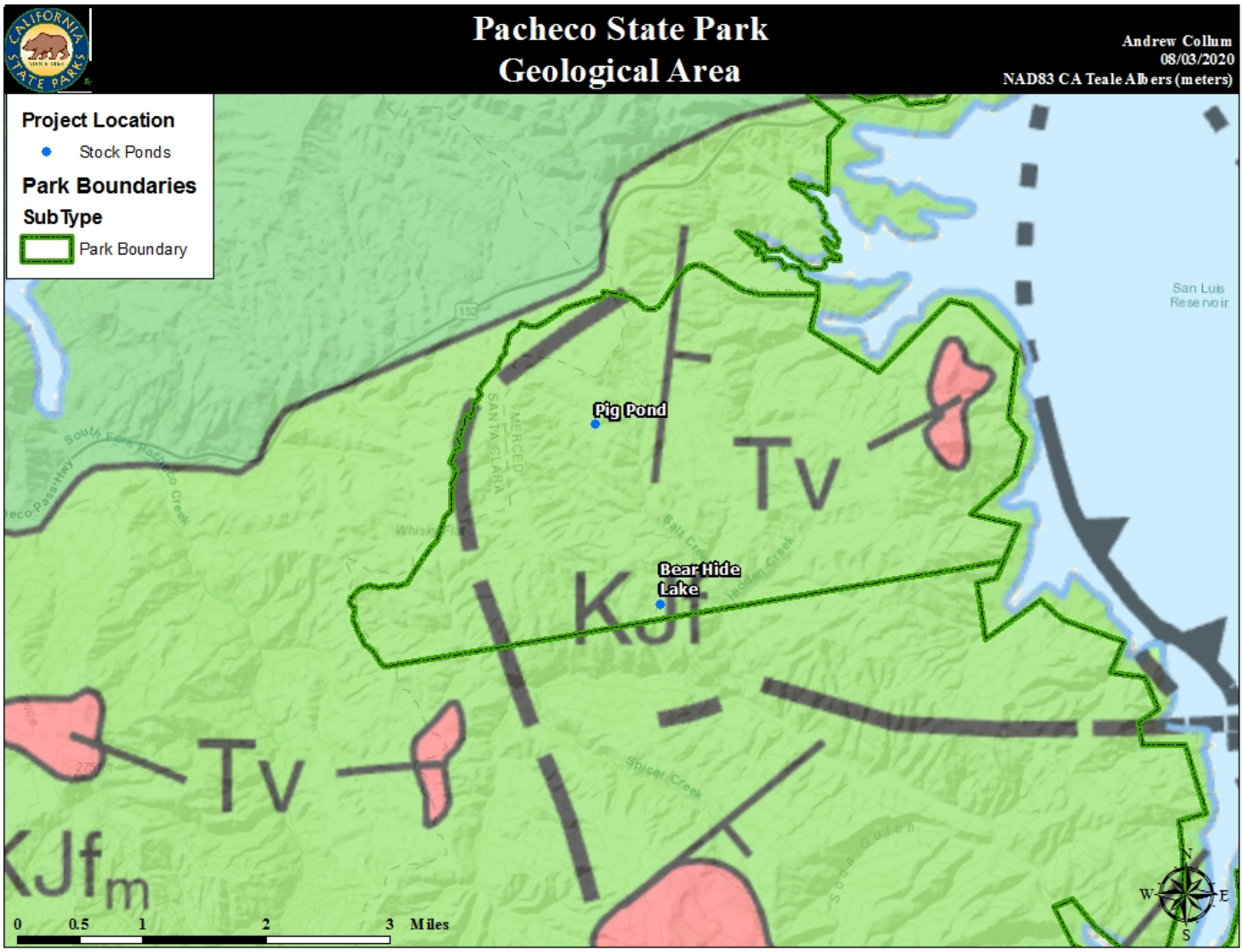
Dam / Embankment Fill
The dam embankment fill materials generally consist of medium stiff to very stiff lean clay (CL) with sand, gravel and cobbles; very dense clayey gravel with sand (GC); and very dense clayey sand with gravel (SC) (*Geocon, 2018*).

Colluvium
In Boring HA1 and Test Pits T2 and T3, located outside of the dam embankments, we encountered colluvium consisting of stiff lean clay with sand, gravel and cobbles (CL) from the ground surface to the maximum depth explored of 2 feet. Colluvium is defined as eroded materials (soil) that are not subject to concentrated flows of water but are generally the result of gravitational forces in mountainous areas (*Geocon, 2018*).

Metasedimentary Rock
Below the dam embankment fill and/or colluvium and at the ground surface in Boring B3 encountered metasedimentary rock (shale) of the Franciscan Formation. As encountered explorations, the metasedimentary rock at the site is intensely weathered, thinly bedded, soft and intensely weathered. The degree of weathering generally decreases with depth and the hardness increases. Generally, drilling refusal in the metasedimentary bedrock at depths of about 2 feet below the bedrock surface with a B-24 drill rig with 4-inch-diameter solid-flight augers. The soil conditions described herein are generalized. Geologic cross-sections for the site..

- No soil or geologic conditions were encountered during the investigation that would preclude the proposed repairs or improvements provided the recommendations contained in a geological report are incorporated into the design and construction.
- The dam embankments are generally comprised of medium stiff to stiff lean clay with sand, gravel and cobbles; very dense clayey gravel with sand; and very dense clayey sand with gravel. The dam embankments are underlain by intensely to moderately weathered metasedimentary rock.
- It is apparent that burrowing animals are present in Pig Pond Dam and may also be present in Bear Hide Lake Dam. Based on our observations it is apparent that animal burrows contributed to the damage at Pig Pond Dam. Burrow repair is typically performed by grouting in or otherwise filling existing burrows. If grading/earthwork is proposed for the project, such activity will remove animal burrows within the extent of earthwork. Burrows extending beyond earthwork limits should be grouted or filled. Animal burrow control can be improved by providing dam slope conditions that discourage burrowing animals (embankment facing materials or similar), removing burrowing animals once they are noted in the dam, or other methods.

- It is apparent that cattle trails traverse the embankment side slopes and crests of both dams and the resulting surficial disturbance is abundant. The resulting surficial disturbance at Bear Hide Lake Dam appears to have lowered the crest of the dam to the elevation of the bottom of the spillway inlet and may have resulted in over-topping of the dam in the winter of 2017.
- Potential alternatives for repairing the dams include (1) repairing the breaches with engineered fill or (2) removing and replacing the dams. Both alternatives should include engineered dam embankment side slopes of 2:1 or flatter, dam crest and spillway configurations that allow for adequate outflow at the spillways.



Units shown on the map are: KJf - Marine sedimentary and metasedimentary rocks (Cretaceous-Jurassic) - Franciscan Complex: Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate. Includes Franciscan melange, except where separated. Tv - Volcanic rocks (Tertiary) - Tertiary volcanic flow rocks; minor pyroclastic deposits (*USGS, 2021*)

California State Parks
Mineral resource extraction is not permitted within State Park property under the Resource Management Directives of the Department of Parks and Recreation.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
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 Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

DISCUSSION

a) **No impact -** The project site located within an area of relatively low seismicity. The possibility of earthquake-induced effects such as surface rupture, strong ground shaking, or liquefaction and lateral spreading are low at this site. An earthquake on any of the above-mentioned faults would likely be felt at the State Park, but ground shaking would be minimal. See individual responses to items a (i-iv) below.

I. **No impact -**The project site is not located within an Alquist-Priolo Earthquake Fault Zone (APEFZ) as designated by the California Geological Survey (CGS). Therefore, there is no risk of surface rupture as a result of this project.

II. **No impact -**Based on the California Geological Survey's Earthquake Shaking Potential for California Map sheet 48, the State Parks is expected to experience lower levels of shaking less frequently from anticipated future earthquakes. The shaking potential is calculated as the level of ground motion that has a 2% chance of being exceeded in 50 years, which is the same as the level of ground-shaking with about a 2500-year average repeat time (*J. Parrish, 2016*).

III. **No impact -** Seismic-induced ground failure, such as liquefaction, usually occur in unconsolidated granular soils that are water saturated. During seismic-induced ground shaking, pore water pressure can increase in loose soils, causing the soils to change from a solid to a liquid state (liquefaction). Based on the nature of the project, strong seismic ground shaking is not anticipated.

IV. **No impact -** Landslide problems are not widespread within the Park. Implementation of **SPR GEO 1** and **PSR HYDRO 2** will ensure that exposure to landslide will not occur as a result of this project. BMPs will be in place to prevent any slope failures caused by excess water on exposed slopes. Therefore, there is a less than significant impact from landslides as a result of this project.

b) **Less than Significant Impact -** A temporary increase in erosion may occur at the project location due to construction activities. However, Implementation of **PSR GEO 1 and PSR HYDRO 2** will prevent substantial soil erosion or loss of topsoil.

c) **No impact -** Construction activities will not result in landslides, lateral spreading, subsidence, collapse or liquefaction. Additionally, adherence to the avoidance and minimization measures listed below will ensure that construction activities reduce the possibility of erosion and loss of soil structure.

d-e) **No impact -** A geotechnical investigation conducted for this project determined lean clay soils with sand at the project location contain low expansion potential and are not considered a constraint (Geocon 2018).

f) **No impact -** No known paleontological resources exist within the project area, nor are they likely to be encountered by the project.

The project could create limited, temporary unstable soil conditions and increased erosion during ground disturbing activities such as road removal and grading/excavation. The area of soil disturbance will be less than one acre; therefore, a Storm Water Pollution Prevention Plan (SWPPP) is not required. However, a Water Pollution and Erosion Control Plan (WPECP) to implement DPR-approved Best

Management Practices (BMPs) will be required for the prevention of soil erosion and sediment runoff, for stockpile management, and for spill prevention from vehicle and equipment fluids and any construction materials.

STANDARD PROJECT REQUIREMENT

All stockpiled soil must be managed utilizing appropriate BMPs to endure that sediment does not flow into waterways or drains, and that invasive species do not grow and spread via the stockpiled material. Stockpiles must be covered and surrounded by a perimeter control if they are inactive for 14 days or more and should be covered and a perimeter control installed in a preparation for rain events or high winds. They should be placed at least 50 feet from an inlet or waterway (including inboard ditches etc.) and must be checked and maintained regularly.

MITIGATION MEASURE:

EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION GEO-1	• The DPR Contractor will install long-term erosion control measures for any areas where ground disturbing activities result in bare soil areas. The soil will be properly decompacted and mulched or revegetated with appropriate native grass seed, sterile grass seed, and/or native duff with the final selection made by a DPR-qualified representative. • DPR will prepare an Erosion Control Plan, as needed. The Erosion Control Plan will detail the erosion and sedimentation prevention measures required. As part of this plan, DPR will ensure that sediment-control devices are installed and maintained correctly. For example, sediment will be removed from engineering controls once the sediment has reached one-third of the exposed height of the control. The devices will be inspected frequently (i.e., daily or weekly, as necessary) to ensure that they are functioning properly; controls will be immediately repaired or replaced, or additional controls will be installed as necessary. Sediment that is captured in these controls may be disposed of onsite in an appropriate, safe, approved area or offsite at an approved disposal site. • Areas of soil disturbance, including temporarily disturbed areas, will be seeded with a regionally appropriate erosion control seed mixture. On soil slopes with an angle greater than 30 percent, erosion control blankets will be installed, or a suitable and approved binding agent will be applied. Runoff will be diverted away from steep or denuded slopes. • Where habitat for covered species is identified within, or adjacent to, the project footprint, all disturbed soils at the site will undergo erosion control treatment before the rainy season starts and after construction is terminated. Treatment may include temporary seeding and sterile straw mulch.

VIII. GREENHOUSE GAS EMISSIONS.

ENVIRONMENTAL SETTING

The Global Warming Solutions Act of 2006 required the State to implement a series of actions to achieve a reduction in GHG emissions to 1990 levels by 2020 (*CAPCOA, 2008*).

The statewide cap for 2020 Greenhouse Gas (GHG) emissions was set at 431 million metric tons of carbon dioxide equivalents. In 2017, emissions from GHG emitting activities statewide were 424 million metric tons of carbon dioxide equivalents. Compared to 2016, California's CDP grew 3.6 percent while carbon intensity of its economy declined by 4.5 percent (*GHGEI, 2019*).

As part of the implementation of actions to reduce GHG emissions, DPR has developed a "Cool Parks" initiative to address climate change and GHG emissions. Cool Parks proposes that DPR, as well as resources under its care, adapt to the environmental changes resulting from climate change. In order to fulfill the Cool Parks initiative, DPR is dedicated to using alternative energy sources, low emission vehicles, recycling and reusing supplies and materials, and educating staff and visitors on climate change (*DPR, 2019*).

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

DISCUSSION

a) **Less Than Significant Impact** - According to recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." (CEQA Guidelines §15064(i)(1) and §15130).

In 2011, the CEQA Guidelines, Section 15064.4 Appendix G was modified to include thresholds of significance for Greenhouse Gases. The project would have potential significant impacts if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

• Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Due to the nature of the proposed project, DPR has determined that it is appropriate to assess potential GHG impacts qualitatively – as allowed by CEQA Guidelines §15064.4(a)

The proposed project could produce GHGs during fuel combustion, particularly during the grading and earthwork. Project vehicles and heavy equipment consists of an excavator, bulldozer, grader, roller, rubber-tired loader, backhoe, logging truck, paver, and dump truck. However, not all vehicles and equipment would operate simultaneously. Some equipment will only be operating during certain stages of the project depending on the nature of the work. The initial tree removal and project grading will occur for approximately one hundred and eighty (180) days, but the construction-related greenhouse gas emissions will be short-term

STANDARD PROJECT REQUIREMENT as noted in Section III above, would require all construction related equipment engines to be maintained and properly tuned up (according to manufacturer's specifications), and in compliance with all state and federal requirements. This requirement is designed to reduce project-related emissions of CO2 and N2O.

b) **No Impact**. The State of California has not developed specific GHG thresholds of significance for use in preparing environmental analyses under CEQA. PCAPCD has a non-residential rural significance threshold for GHG emissions. However, the Association of Environmental Professionals' document *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents,* states that emissions for criteria pollutants tend to follow similar patterns as the emissions for GHG emissions" (*CAPCOA 2008*). Therefore, it is reasonable to assume that if all other pollutants from the project are determined to be less than significant, the CO2 emissions will also be less than significant. The proposed project will not violate Placer County's air quality standards and will not result in a cumulatively considerable increase in emissions. Additionally, the proposed project complies with Merced County's Draft Sustainability Plan. Therefore, the proposed project will not generate significant GHG emissions and will therefore not conflict with the current state and local

To reduce potential GHG emissions due to project activities, the project would implement **AIR 1 – Air Quality** to limit impacts to air quality and reduce GHG emissions during project activities. Implementation of this project requirement would ensure that the project would have a less than significant impact.

MITIGATION MEASURE: NONE

IX. HAZARDS AND HAZARDOUS MATERIALS.

ENVIRONMENTAL SETTING

Hazardous Materials

Hazardous materials are items or substances which are flammable, reactive, corrosive, or toxic, which because of these properties, pose potential harm to the public or environment. The California Department of Toxic Substances Control (DTSC) has the responsibility of compiling information on hazardous material sites, pursuant to Government Code Section 65962.5(a). The collective list of hazardous material sites is known as the "Cortese" List. The Cortese list is accessible through the DTSC Envirostor data management system (*FHSZ Viewer*).

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death from wildland fires?	☐	☐	☐	☒

DISCUSSION

a) **Less Than Significant Impact** - During excavation, grading, and construction activities for the proposed project, it is anticipated that limited quantities of miscellaneous hazardous substances (such as petroleum-based products/fluids, solvents, and oils) will be employed in the project and staging area. The proposed project will comply with all relevant federal, state, and local statutes and regulations related to transport, use, or disposal of hazardous materials. Therefore, impacts will be less-than-significant. Construction activities will incorporate project requirements **Hazmat-1** and **Hazmat-2,** thus minimizing hazards resulting from routine transport, use, or disposal of hazardous materials.

b) **No Impact** - Spill prevention measures will be in-place during construction to address the accidental or inadvertent release of oil, grease, or fuel into adjacent waterways. Additionally, specific project requirements will require the storage of reserve fuel and the refueling of construction equipment within the staging area, and inspection of vehicles for oil and fuel leaks.

c) **No Impact** - The project area is not located within a quarter (.25) mile of an existing or proposed school.

d) **No Impact** - No existing or proposed schools are located within one-quarter mile of the Project site. Furthermore, the Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or wastes.

e) **No Impact** - The project area is not located within an airport land use plan or within two (2) miles of a public use airport.

f) **No Impact** - The proposed project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) **Less Than Significant Impact** - The project area is within a CalFire designated "High" fire severity hazard area (Calfire). However, the proposed project will not present new uses that will increase the fire risk. Additionally, fire suppression equipment, such as fire extinguishers, will be kept on-site during construction and in accordance with local fire codes and standards. Furthermore, **Hazmat-2** will ensure a Fire Safety Plan be developed by a DPR-approved forester, prior to the start of construction.

Standard or Specific Project Requirements

STANDARD PROJECT REQUIREMENT HAZMAT-1:	• Prior to the start of construction, all equipment will be cleaned before entering the project site. During the project, equipment will be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site at a lawfully permitted or authorized destination.

STANDARD PROJECT REQUIREMENT HAZMAT-2: EQUIPMENT INSPECTION AND MAINTENANCE:	• Well-maintained equipment will be used to perform the work and, except in the case of a failure or breakdown, equipment maintenance will be performed offsite. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed. Fueling of land- and marine-based equipment will be conducted in accordance with procedures to be developed in the Spill Prevention and Pollution Control Plan. • Vehicles and equipment that are used during the course of a project will be fueled and serviced in a "safe" area (i.e., outside of sensitive habitats) in a manner that will not affect covered species or their habitats. Spills, leaks, and other problems of a similar nature will be resolved immediately to prevent unnecessary effects on covered species and their habitats. A plan for the emergency cleanup of any spills of fuel or other material will be available onsite, and adequate materials for spill cleanup ·will be maintained onsite.
STANDARD PROJECT REQUIREMENT HAZMAT-3: FUELING ACTIVITIES:	• Avoidance and minimization measures will be applied to protect covered species and their habitats from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during project implementation will be fueled and serviced in a manner that will not affect covered species or their habitats. Machinery and equipment used during work will be serviced, fueled, and maintained on uplands to prevent contamination to surface waters. Fueling equipment and vehicles will be kept more than 200 feet away from waters of the United States.
STANDARD PROJECT REQUIREMENT HAZMAT-4: EQUIPMENT STAGING:	• No staging of construction materials, equipment, tools, buildings, trailers, or restroom facilities will occur in a floodplain during flood season at the proposed project location, even if staging is only temporary.
SPILL PREVENTION AND RESPONSE	• DPR will exercise every reasonable precaution to protect covered species and their habitats from pollution due to fuels, oils, lubricants, construction by-products, and pollutants such as construction chemicals, fresh cement, saw-water, or other harmful materials. Water containing mud, silt, concrete, or other byproducts or pollutants from construction activities will be treated by filtration, retention in a settling pond, or similar measures. Fresh cement or concrete will not be allowed to enter the flowing water of streams and curing concrete will not come into direct contact with waters supporting covered species. Construction pollutants will be collected

	and transported to an authorized disposal area, as appropriate, per all Federal, State, and local laws and regulations. • To reduce bottom substrate disturbance and excessive turbidity, removal of existing piles by cutting at the substrate surface or reverse pile driving with a sand collar at the base to minimize resuspension of any toxic substances is preferable; hydraulic jetting will not be used. • No petroleum product chemicals, silt, fine soils, or any substance or material deleterious to covered species will be allowed to pass into or be placed where it can pass into a stream channel. There will be no side-casting of material into any waterway. • All concrete or other similar rubble will be free of trash and reinforcement steel. No petroleum-based products (e.g., asphalt) will be used as a stabilizing material. • DPR will store all hazardous materials in properly designated containers in a storage area with an impermeable membrane between the ground and the hazardous materials. The storage area will be encircled by a berm to prevent the discharge of pollutants to ground water or runoff into the habitats of covered species. A plan for the emergency cleanup of any hazardous material will be available onsite, and adequate materials for spill cleanup will be maintained onsite.
STANDARD PROJECT REQUIREMENT HAZMAT-5: WILDFIRE AVOIDANCE AND RESPONSE	• A Fire Safety Plan will be developed by a DPR-approved forester, prior to the start of construction. • Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment. • Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked on roads or staging areas to reduce the chance of fire. • With the exception of vegetation-clearing equipment, no vehicles or construction equipment will be operated in areas of tall, dry vegetation. • DPR will develop and implement a fire prevention and suppression plan for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire.

MITIGATION MEASURE:

X. HYDROLOGY AND WATER QUALITY.

ENVIRONMENTAL SETTING

Watershed

Pacheco SP is within the Spicer Creek-San Luis Creek watershed (HUC-12 Watershed), which is a sub-watershed of the larger San Luis Creek watershed (HUC-10 Watershed). The Central Regional Water Quality Control Board (CRWQCB) has jurisdiction over the watershed and establishes beneficial uses of water within the region. According to the CRWQCB Water Quality Control Plan for the Central Regional (2018 Basin Plan), existing beneficial uses for this region include: municipal, domestic, agricultural, stock watering and commercial supply, groundwater recharge, freshwater replenishment, navigation, hydropower generation, recreation (contact and non-contact activities); cold freshwater habitat; wildlife habitat; migration of aquatic organisms; spawning, reproduction, and/or early development, and aquaculture.

Flooding

The Federal Emergency Management Agency (FEMA), through its flood map service center, produces flood hazard maps in support of the National Flood Insurance Program. These maps display flood hazard areas and provide a base for floodplain management. According to the latest (*FEMA, 2008*) flood hazard map (06047C0775G), components of the project are within special flood hazard Zone Pacheco State Park has a FEMA zone designation D, indicating that no flood analysis has been conducted in the area.

Water Quality and Water Supply

The (CVRWQCB) Central Valley Regional Water Quality Control Board (*Karl, L 2018*) contains regulations adopted by the local water board to control the discharge of waste and other controllable factors affecting the quality of waters of the state within the boundaries of the Central Valley. The dam repairs will be done in two stock pod that are traditionally used to assist in cattle ranching.

Regulatory Setting

CALFIREW
The California Department of Fish and Game requires a Stream Alteration Agreement (SAA) for projects that will divert or obstruct the natural flow of water, change the bed, channel or bank of any stream or use any material from a streambed. The SAA is a contract between the applicant and CALFIREW stating what can be done in the riparian zone and stream course.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
	1. result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
	2. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
	3. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
	4. impede or redirect flood flows?	☐	☐	☐	☒
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

DISCUSSION

a) **Less Than Significant Impact-** Short-term adverse impacts to water quality could occur during project construction related activities in or near the stock ponds. By scheduling construction of any construction activities within the stock pond during low or empty periods in late summer/early fall, and implementing **GEO-1**, **WQ-1** and **HYDRO-1 AND STANDARD PROJECT REQUIREMENT HAZMAT-1**, the risk of water quality impacts during construction will be less than significant. The project will be required to obtain and comply with multiple permitting/regulatory agencies permits and conditions prior to project implementation. This permitting requirement is developed to minimize the risk of water quality degradation from sediment and other potential hazardous materials used during project construction.

b) **No Impact**– The project will not significantly alter or deplete local groundwater. Local groundwater may be encountered during some excavation activities; this will not impact the groundwater flow, recharge or direction within the project area.

c) **Less Than Significant Impact**– The project will temporarily change the local drainage pattern at the

site by repairing the historic impoundment constructed along these drainages, however; repairs will be done when little to no water is present. Revegetation of the disturbed areas on the dam banks will stabilize soils. No new impervious structures are proposed, and existing coverage at the site will not be changed. The project will not impede flood flows. Implementation of **HYDRO-1** and **GEO-1** will reduce the potential impact to construction related on or off-site erosion or siltation to a less than significant level.

d) **No Impact**– The project is not located within a region that would be affected by seiche, tsunami, or mudflow.

e) **No Impact**– There are no plans in place for this area that would conflict or obstruct the implementation of a water quality control or sustainable groundwater management plan.

STANDARD PROJECT REQUIREMENT

STANDARD PROJECT REQUIREMENT HYDRO-1:	• Best Management Practices (BMPs) will be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during any ground disturbing activities as approved by the Regional Water Quality Control Board.
EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION GEO-1	• The DPR Contractor will install long-term erosion control measures for any areas where ground disturbing activities result in bare soil areas. The soil will be properly decompacted and mulched or revegetated with appropriate native grass seed, sterile grass seed, and/or native duff with the final selection made by a DPR-qualified representative. • DPR will prepare an Erosion Control Plan, as needed. The Erosion Control Plan will detail the erosion and sedimentation prevention measures required. As part of this plan, DPR will ensure that sediment-control devices are installed and maintained correctly. For example, sediment will be removed from engineering controls once the sediment has reached one-third of the exposed height of the control. The devices will be inspected frequently (i.e., daily or weekly, as necessary) to ensure that they are functioning properly; controls will be immediately repaired or replaced, or additional controls will be installed as necessary. Sediment that is captured in these controls may be disposed of onsite in an appropriate, safe, approved area or offsite at an approved disposal site. • Areas of soil disturbance, including temporarily disturbed areas, will be seeded with a regionally appropriate erosion control seed mixture. On soil slopes with an angle greater than 30 percent, erosion control blankets will be installed, or a suitable and approved binding agent will be applied. Runoff will be diverted away from steep or denuded slopes. • Where habitat for covered species is identified within, or adjacent to, the project footprint, all disturbed soils at the site will undergo erosion control treatment before the rainy season starts and after

	construction is terminated. Treatment may include temporary seeding and sterile straw mulch.

PROJECT SPECIFIC REQUIREMENT

MITIGATION MEASURE To avoid indirect construction-related impacts to aquatic systems, BMPs will be implemented to minimize soil disturbance. Where soil disturbance is necessary, stabilization techniques (including the use of silt fences, check dams, fiber rolls or blankets, gravel bag berms, geotextiles, plastic covers, erosion control blankets/mats, covering of exposed areas with mulch) will be utilized.

XI. LAND USE AND PLANNING.

ENVIRONMENTAL SETTING

Merced County 2030 General Plan designates Pacheco State Park as Foothill Pasture for land use classification (*Merced County 1990)*.

Pacheco State Park General Plan

The Pacheco State Park General Plan breaks up the park into four management zones. Each zone represents areas in the Park that may have Characteristics in common, and therefore will be managed similarly (*PSP General Plan 2006*). The four zones are:

Administrative and Operation Zone (AO) - Areas of existing buildings and will be used for Park operations, residences and maintenance activities however allowing limited public use.

Front country Zone (FC)- Main area of public use of the park where visitors will experience first upon entry, and which will contain the most active user facilities.

Back Country (BC)- Public access predominantly in the form of hiking, biking and equestrian trails and will have limited motorized access, respective of the primitive landscape character.

Leased Zone (LE)- Current area of the site that contains windmills and allows for this land use to continue with limited public access.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

DISCUSSION

A) **No Impact.** The project would not physically divide an established community or conflict with any HCP or NCCP; therefore, it would not cause an adverse change in the environment related to land use and planning

B) **No Impact.** The proposed project is consistent with all applicable state and local land use plans, policies, and regulations.

STANDARD PROJECT REQUIREMENT - NONE

MITIGATION MEASURE - NONE

XII. MINERAL RESOURCES.

ENVIRONMENTAL SETTING

The Surface Mining and Reclamation Act (SMARA) mandates the California Geological Survey (CGS) to provide economic-geologic expertise to assist in the projection and development of mineral resources through the land-use planning process. The primary products are mineral land classification maps and reports created by CGS' Division of Mines and Geology (*PSP General Plan 2006*). Mineral land classification address specific types of mineral deposits that occur in specific geographical areas.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

DISCUSSION

a-b) **No Impact** – No significant mineral resources have been identified within the boundaries of the DPR unit and all project activities will occur within DPR lands. The project will not change land use activities on the site and will therefore not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. As stated in the Environmental Setting above, under PRC § 5001.65, mining within any unit of the State Park System is Prohibited.

STANDARD OR SPECIFIC PROJECT REQUIREMENT - NONE

MITIGATION MEASURE - NONE

XIII. NOISE.

ENVIRONMENTAL SETTING

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech, and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain activities. The health effects of noise on people are the primary consideration of assessing potential noise impacts from a project. The effect of noise on humans can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise (such as noise measured in conjunction with a proposed new development) generally produces effects in the first two categories. Workers in industrial plants can experience noise in the last category, although project-related noise can infrequently be associated with the third category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of an individual or community to noise, but tolerance levels tend to be based on an individual's experiences with noise. Therefore, an important way of predicting human reaction to a new noise environment (i.e., post-project) is to compare it with the existing environment (pre-project) to which the community has adapted—the ambient noise level. In general, the more a new noise exceeds the previously existing noise level, the less acceptable the new noise will be judged by those hearing it. DPR does not maintain a standard for noise, typically deferring to the requirements of the local jurisdiction in which the park unit is located.

Merced County Noise Ordinance: Chapter 10.60 of the County Code contains the Noise Ordinance. Section 10.60.030 contains sound level limitations for both residential and nonresidential properties. Specifically, noise levels are not permitted to exceed background levels by 10 dBA during daytime hours, or by 5 dBA during nighttime hours. In addition, exterior noise levels are not permitted to exceed 65 dB Ldn at residential properties or 70 dB Ldn at non-residential properties. This section also specifies that maximum noise levels shall not exceed 75 dB Lmax at residential properties, or 80 dB Lmax at non-residential properties (*Merced General Plan, 1990)*.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION

a) **Less Than Significant Impact**. Most noise will likely occur during the demolition of the dam, land clearing and grading portion of the project. Merced County Noise Ordinance applies to residential properties and since none are located anywhere near the project locations, noise in excess of the local standards will not result from the project. Due to the temporary duration of exposure and with implementation of standard project requirement **Noise-1**, and Project Specific Requirement **Noise-2**, noise impacts to those traveling through the vicinity of the project will have a less than significant impact. After the project is complete, noise levels will return to pre-construction levels and will not result in a permanent increase in ambient noise.

b) **Less Than Significant Impact**. The project will by necessity, generate ground borne vibrations and higher ground borne noise levels. Modest and temporary vibration may occur as a result of construction activities potentially including heavy equipment such as jackhammers, backhoes, and heavy trucks, and other equipment that are known to produce notable noise and ground borne vibrations. Due to the temporary duration of construction, and with implementation of Standard Project Requirement **Noise-1** and Standard Project Requirement **Noise-2**, impacts resulting from ground borne vibrations or ground borne noise levels will be less than significant. while there are no sensitive receptors for miles around, DPR requires the previously stated Standard Project Requirements on most construction projects.

c) **No Impact**. The project area is not located within an airport land use plan or within two (2) miles of a public or private use airport. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels.

STANDARD OR SPECIFIC PROJECT REQUIREMENT

STANDARD PROJECT REQUIREMENT NOISE-1: NOISE EXPOSURE	• Internal combustion engines used for any purpose in the project areas will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for project related activities will utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary. • Stationary noise sources and staging areas will be located as far from visitors as possible. If they must be located near visitors, stationary noise sources will be muffled to the extent feasible, and/or where practicable, enclosed within temporary sheds.

PROJECT SPECIFIC REQUIREMENT NOISE-2: WORK HOURS	• Project related activities will generally be limited to the daylight hours, Monday through Friday. However, weekend work may be implemented to accelerate construction or address emergency or unforeseen circumstances. No work shall occur before 8:00 am or after 6:00 pm. • Construction activities that may affect suitable habitat for covered species will be limited to daylight hours during weekdays, leaving a nighttime and weekend period for the species. Work will be allowed on weekends if the proposed construction is 14 days or less in length.

MITIGATION MEASURE- NONE

XIV. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

The proposed project area is located in Merced County approximately 8 miles west of Gustine (population 5,882), (USCB 2021a). Merced County as a whole has a population of approximately 277,680 as of 2019 (USCB 2021b). The project area and the surrounding region is considered to be an undeveloped rural area with mixed agricultural and public uses.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
d) 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)?	☐	☐	☐	☒
e) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a-b) The project entails the rehabilitation of two existing failed dams. As such, the project would not directly or indirectly induce population growth in the area nor would it displace housing or require construction of replacement housing. Therefore, there is no impact.

STANDARD PROJECT REQUIREMENT - NONE

PROJECT SPECIFIC REQUIREMENT - NONE

XIII. PUBLIC SERVICES.

ENVIRONMENTAL SETTING

Pacheco State Park is bordered on the east by the San Luis Reservoir which is used primarily for recreational boating and fishing. The northern boundary terminates at Dinosaur Point Road which ends at a boat launch and the San Luis Reservoir. Further north lies the Upper Cottonwood Creek Wildlife Area which is approximately 6,300 acres of steep oak-grassland home to over 100 species of birds and used for outdoor recreation such as hunting, hiking, and bird watching (*DPR 2020*). The southern boundary abuts two adjacent properties, the Southeast is owned by Harris Ranch LLC and the Southwest owned by Mariposa Peak LLC. The Western border abuts several smaller properties owned by various private landowners for residential and commercial use, and a 3383-acre agricultural parcel run by Giovannotto Land & Cattle LLC. The creation of Pacheco State Park was based on the continual use of historic grazing practices which is still done today. Recreational trails in the Park travel through the grazing areas, and visitors are allowed. Over 2,000 acres of the Park is leased to Scouts Clean Energy and contains approximately 161 wind turbines with more to be installed, with goals of producing 100 MW of energy. Park visitors are not allowed in sections of the park where wind turbines are located. The Park has no permanent residents as it is a recreational facility. Development of permanent housing is not a planned use of the Park. Pacheco State Park is zoned as Open Space under the Merced County general plan *(Scout 2021)*.

Fire Services

Emergency fire protection is provided by the California Department of Forestry and Fire Protection's (CALFIRE) Gonzaga Road field station, located at the San Luis Reservoir SRA. Supplemental protection is provided by Merced County. There are 19 county fire stations that provide local fire protection services in Merced County. In 2019, the Merced County Fire Department (MCFD) employed one (1) full-time fire chief, one (1) Division chief, five (5) full-time battalion chiefs, and 191 paid fulltime firefighters. The nearest CALFIRE station is located in Hollister, CA with a separate CalFire attack base located at the Hollister Municipal Airport, approximately 17 miles from Pacheco State Park. Park Rangers patrol and inspect all designated fire roads during the fire season (*Calfire, 2021*).

Schools

There are no schools within the project site. The closest school to the project site is Romero Elementary School, located within nine miles of the park.

Parks

Merced County has a multitude of recreational opportunities including riparian areas, hills, lakes, streams, Oak Savannah, and areas of historical significance. Pacheco State Park is comprised of (6,890 acres) of the County's land area which is designated as Foothill Pasture by the Merced county plan. Only the western 2,700 acres are open to the public and provides 28 miles of trails for hiking, horseback riding, and mountain biking.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project result in substantial adverse physical impacts associated with the provision	☐	☐	☐	☒

	of new or physically altered governmental facilities, 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:				
v.	Fire protection?	☐	☐	☐	☒
vi.	Police protection?	☐	☐	☐	☒
vii.	Schools?	☐	☐	☐	☒
viii.	Parks?	☐	☐	☐	☒
ix.	Other public facilities?	☐	☐	☐	☒

DISCUSSION

No Impact. The proposed project will not create an increase in public service requirements, impact police services provided by DPR Park Rangers or disrupt school services. Additionally, the proposed project is DPR approved and will not result in an impact to the park or other surrounding public facilities. Access to the Park would remain open to the public except in the immediate project area. None of the project elements would interrupt normal activities at the Park or contribute to significant increase in visitation. The level of required services within the park is expected to remain relatively static, subject only to seasonal fluctuations in visitor use.

STANDARD PROJECT REQUIREMENT HAZMAT-2

STANDARD PROJECT REQUIREMENT Hazmat-2: WILDFIRE AVOIDANCE AND RESPONSE	• A Fire Safety Plan will be developed by a DPR-approved forester, prior to the start of construction. • Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment. • Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked on roads or staging areas to reduce the chance of fire.

PROJECT SPECIFIC REQUIREMENT - NONE

MITIGATION MEASURE - NONE

XVI. RECREATION

ENVIRONMENTAL SETTING

Pacheco State Park has beautiful displays of spring wildflowers, scenic vistas, and trails for horseback riding, hiking, and mountain biking. The 28 miles of trails offer several loop options to give visitors the choice of a hike or ride from one to twenty miles or more. During the spring the park's grassy slopes abound with blossoming wildflowers. The Park is home to tule elk, deer, bobcat, coyote, several hikes, golden eagles, and many other smaller animals. Cattle continue to graze on the ranch in the winter and spring months. Although the total park area is 6,890 acres only the western 2,600 acres are open for public use currently (*DPR 2020*).

Among the historic features of the park are an old-line shack used by Henry Millers Cattle Company in the 1800's, part of the old Butterfield Stage line Route, and the remains of the original Pacheco adobe. There is also a wind turbine farm which generates enough clean electrical power for 3,500 homes (*DPR 2020*). Other nearby parks include San Luis Reservoir State Recreation area, located directly east of Pacheco State Park. San Luis Reservoir State Recreation Area offers camping opportunities at four separate campgrounds not including two group camp locations, and several locations for launching boats.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
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?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a-b) **No Impact**- The nature of the work has the potential to affect the availability of the trails for visitor use. Incorporating Specific Project Requirement REC-1 into the project would ensure that temporary impacts on recreation facilities would remain at a less than significant level.

STANDARD PROJECT REQUIREMENT

STANDARD PROJECT REQUIREMENT REC 1:	• During construction, bike and pedestrian access to adjacent trails will be clearly delineated and signed. Periodic road closures will be posted and alternative routes, if available will be identified.

STANDARD PROJECT REQUIREMENT REC 2: WORK AREA DESIGNATION TO MINIMIZE DISTURBANCE	• DPR will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever possible, existing vegetation will be salvaged from the project area and stored for replanting after earthmoving activities are completed. Topsoil will be removed, stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into covered species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible. • Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.

MITIGATION MEASURE - NONE

XVII. TRANSPORTATION.

ENVIRONMENTAL SETTING

The project site is located in Merced County on the south side of State Route 152, an east-west corridor beginning at Interstate 99 near Chowchilla, California in Merced County and ending at State Route 1 near Watsonville, in Santa Cruz County. This four-lane highway passes through and serves as the sole point of access to the park.

The Merced County Association of Governments (MCAG) is the Regional Transportation Planning Agency (RTPA) for the County of Merced. As an RTPA, the MCAG is the designated planning and administrative agency for transportation projects and programs in the County. The agency is responsible for creating the Regional Transportation Plan (RTP), a 25-year blueprint that serves as a master plan for regional air, highway, public transit, bicycle, pedestrian, and other transportation improvement projects. The RTP clearly defines local needs, transportation alternatives, funding sources, transportation project priorities, and alternative modes of transportation (*MCAG, 2018*). The MCAG most recently updated the RTP in 2018.

There is presently no transit system operating near Pacheco State Park; with the nearest being The Los Banos Commuter, approximately twenty miles from the project site.

There are no airports, public or private, within two miles of the project site and the site is not located within an airport land use area.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

DISCUSSION

a) **No Impact** - The nature of the work has the potential to affect traffic only in the contexed of transportations and construction vehicles, and implementation of the project would result in no long-

term operational increases in traffic. All construction activities associated with the project would occur within the boundaries of the Park. None of the activities proposed as part of this project would have the potential to cause traffic delays on a public road or result in an increase in Vehicle Miles Travelled (VMT). Implementation of the project would result in no long-term operational increases in traffic; all increases being temporary related to construction. With the wind repower project; there were unique issues transporting oversized loads to the site, however this is not expected as the wind farm is located half a mile to the east of the project locations. Expected construction equipment will include a Crawler tractor, excavator, backhoe, and several off-highway trucks for moving earth. Traffic resulting from construction personnel will have a negligible contribution on the amount of traffic traversing SR-1.

b) **Less Than Significant Impact** - CEQA Guidelines section 15064.3, subdivision (b)(1) lists criteria for analyzing transportation impact related to land use projects. Generally, projects within one-half (.50) mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact [14 CCR Section 15064.3 (b)(1)]. The proposed project is approximately over 20 miles away from the closest transit stop in the city of Los Banos.

c) **No Impact** - The proposed project is located at Pacheco State Park. Alteration of transportation features such as highways or County roads are not within the scope of this project. Although the project sites will be closed to the public, heavy equipment has the potential to create conflict with recreation users within the Park. Strict adherence to **SPR Traffic- 1** will ensure potential impacts resulting from increased hazards would remain less than significant.

d) **Less Than Significant Impact** - Emergency access would remain intact, vehicle access by park rangers, staff or emergency medical services is currently allowed in the event of an emergency. In the event of life-threatening emergencies, the California Shock Trauma Air Rescue (CALSTAR Gilroy Service Area) service helicopters, based at St. Louise Regional Hospital, provide air ambulance service for the western section of Merced County, available for medical emergencies, search and rescue, and fire support. Response time is generally under 20 minutes.

STANDARD PROJECT REQUIREMENT

STANDARD PROJECT REQUIREMENT TRAFFIC-1: TRAFFIC CONTROL PLAN	• Prior to commencing construction, the contractor shall prepare a traffic control plan that includes the following components: • Exclusionary fencing will be placed along the project limits, as necessary, to exclude non-construction personnel from the construction area. • Speed limits shall be set for heavy equipment traveling to and from the project site by the State's Representative.

MITIGATION MEASURE - None

XVIII. TRIBAL CULTURAL RESOURCES.

ENVIRONMENTAL SETTING

The project area lies within the ethnographic boundaries of the Northern Valley Yokuts and the Ohlone (Costanoan). Although the Yokuts appear to have been the primary group in the region, evidence suggests strong coastal influences by Ohlone groups.

Section V. Cultural Resources describes the ethnographic context of the project area. All state agencies including DPR are required to consult with Native American tribes regarding projects that may impact tribal cultural resources under California Assembly Bill (AB) 52 [PRC 21080.3.1(b)(d)]. Native American consultation pursuant to CEQA guidelines and AB 52 mandates, include a sacred lands file search with the Native American Heritage Commission (NAHC) and outreach to tribes that have requested formal consultation with the department for projects on their tribal land. DPR contacted the NAHC for this project in October 2020 requesting a Sacred Lands File search and for a list of tribes affiliated with the project area. The NAHC in a response from April 2021, did not identify any Native American cultural resources or sacred sites in the project area and studies by DPR (archival research and field survey) of the area proved, negative for the presence of Native American archaeological resources in the immediate area. The NAHC did provide a contact list of five tribes affiliated with the project area. This list includes Amah Mutsun Tribal Band, North Valley Yokuts Tribe, Santa Rosa Rancheria Tachi Yokut Tribe, and Southern Sierra Miwuk Nation. A search of the DPR database which maintains a list of tribes that request formal outreach pursuant to AB52 tribes for departmental projects did not have any tribes on the list affiliated with the area.

DPR's consultation efforts included letters and emails discussing the projects scope and details the only tribe to respond was the Santa Rosa Rancheria Tachi Yokut Tribe. Communications initiated included emails which culminated into a zoom meeting with tribal representatives to discuss concerns of unexpected tribal finds. During consultation, no tribal cultural resources were identified in the project area by the tribal representative, and representatives had little concern with the proposed project; however, a tribal monitor and an archeological monitor has been requested to be present during ground disturbing activities (*McCarty, S 2021)*.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☐	☐	☒
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as	☐	☐	☐	☒

	defined in Public Resources Code section 5020.1(k), or				
ii.	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

DISCUSSION

a) No Impact –No tribal cultural resources present within the project area. The areas surrounding Pachaco SP was important for contact between costal and interior tribal groups through the Pacheco Pass trade route and would have facilitated exchange of goods and cultural ideas throughout prehistory. Tribal cultural resources within the project area were not identified during DPR's cultural studies or though consultation efforts for this project. By Implementing Project Requirements CULT-1 through CULT-3 outlined in the Cultural Resources section, will ensure work will not impact previously unidentified tribal cultural resources

STANDARD PROJECT REQUIREMENT -

STANDARD PROJECT REQUIREMENT CULT-1: MONITORING	• At the discretion of the project archaeologist, a DPR-qualified archaeologist, and local tribal representative will monitor ground-disturbing activities for this project. The archaeologist will have the authority to stop construction work in the area of the find and evaluate it and implemented appropriate treatment measures to avoid having a significant impact to historical resources per PRC 15064.5.

STANDARD PROJECT REQUIREMENT CULT-2: HUMAN REMAINS OR BURIAL ARTIFACTS	• In the event that human remains were discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor would be responsible for notifying the appropriate Native American authorities. • If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination. • If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC or Tribal Cultural Representatives will also occur as necessary to define additional site mitigation or future restrictions.
STANDARD PROJECT REQUIREMENT CULT-3: UNDOCUMENTED CULTURAL RESOURCES	• In the event that previously undocumented cultural resources are encountered during project construction (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash), work within the immediate vicinity of the find will stop until DPR-qualified cultural resource specialist has evaluated the find and implemented appropriate treatment measures to avoid have a significant impact to historical resources per PRC 15064.5

PROJECT SPECIFIC REQUIREMENT

XIX. UTILITIES AND SERVICE SYSTEMS.

ENVIRONMENTAL SETTING

Pacheco State Park borders San Luis Reservoir in Merced County. Pacheco State Park does not have a source of potable water for the public. Water storage tanks and distribution piping for the existing buildings are limited. There are no power lines located within the Park, but a switchyard, collections lines, transformers and transmission lines associated with the wind energy facilities operation are located in the eastern portion of the Park in and around the existing wind turbines. Pig Pond and Bear Hide Lake Ponds are located in an undeveloped section of Pacheco State Park used for grazing, although some hiking trails are located nearby (*PSP General Plan, 2021*).

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LES S THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION

a-c) **No Impact.** Pig Pond and Bear Hide Lake is located in the back country zone within Pacheco State Park and entirely undeveloped. No new facilities are proposed, just rehabilitation and replacement of

existing infrastructure. New waterlines will be installed to retrofit existing infrastructure. Additionally, wastewater generated from construction activities will be temporary and will be hauled offsite.

d) **No Impact.** The proposed project will not significantly increase the park's waste generation or solid waste disposal needs.

e) **No Impact.** Waste generated by the project will be stored in appropriate receptacles and removed daily or as needed.

STANDARD PROJECT REQUIREMENT -

STANDARD PROJECT REQUIREMENT AIR-1: EMISSIONS OF FUGITIVE DUST AND OZONE	• All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions while in use by large machinery for project actions. • All trucks hauling soil or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. • All construction related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all state and federal requirements. • Potential dust producing actions will be suspended if sustained winds exceed twenty five (25) miles mph, instantaneous gusts exceed thirty five (35) mph, or dust from construction might obscure driver visibility on public roads. • Earth or other material that is transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed. • Idling time will be minimized to ten (10) minutes for all diesel-powered equipment.

MITIGATION MEASURE

XX. WILDIFIRE

ENVIRONMENTAL SETTING

Emergency fire protection is provided by the California Department of Forestry and Fire Protection (CALFIRE) Gonzaga Road field station, located at the San Luis Reservoir SRA. Supplemental protection is provided by Merced County (Pacheco General Plan). The project area is within a CalFire designated "High" fire severity hazard area (Calfire). However, the proposed project will not present new uses that will increase the fire risk (Calfire 2020). Additionally, fire suppression equipment, such as fire extinguishers, will be kept on-site during construction and in accordance with local fire codes and standards.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LES S THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

DISCUSSION

a) **No Impact -** The project will have no impact on the Wildfire Management Plan for Pacheco State Park. Implementation of **Hazmat-2** during construction will be in accordance with DPRs' Wildfire Management plan for Pacheco State Park.

b-c) **No Impact -** The project will have no impact on wildfire risks. Implementation of **Hazmat- 2** during construction will ensure a Fire Safety Plan will be developed and approved by a DPR-approved forester prior to the start of construction.

d) **No Impact -** The project will have no effect on potential wildfire intensity or fire effects. Implementation of **Hazmat-2** during construction will be in accordance with DPRs' Wildfire Management plan for Pacheco State Park.

STANDARD PROJECT REQUIREMENT
Hazmat-2, introduced in the Hazards and Hazardous Materials chapter.

PROJECT SPECIFIC REQUIREMENT - NONE

CHAPTER 4

MANDATORY FINDINGS OF SIGNIFICANCE

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Does the project 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?	☒	☐	☐	☐
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?)	☐	☐	☐	☒
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	☐	☐	☐	☒

DISCUSSION

a) **Potentially Significant Impact** - As identified in section IX, the proposed project would result in both temporary and permanent changes to the Physical and Biological Features, including essential aquatic habitat for California Red Legged Frog and California Tiger Salamander. These effects include disturbance to aquatic features though the use of pumps within the reservoir, resulting in temporary hydrologic changes, and temporary water quality changes. Upland habitat would be altered through the grading of the dam crest and repair of the eroded portions of the embankment would remove upland refugia habitat until the small mammal naturally re-colonize the disturbed area.

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 results in 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.

b) **Less Than Significant Impact** - Although cultural resource inventories confirm that the park has a high degree of archaeological sensitivity, no additional cultural resources were identified in the project APE, other than the stock ponds themselves. To ensure that there are no impacts to these historic resources see Specific Project Requirement Cult-1, 2, and 3 in the Cultural Resources Section. In the

event archaeological artifacts are found, project requirements would stop work until the resource could be evaluated.

b) **Less Than Significant Impact** - The project does not have impacts that are individually limited, but cumulatively considerable. Potential air quality, greenhouse gas emissions, hydrology, and traffic impacts are discussed in the respective sections above. The project will not increase the demands for public services, increase traffic, air pollutions, or contribute to cumulative effects with respect to future developments in Merced County.

c) **Less Than Significant Impact** - All impacts identified in this MND are less than significant, with project requirements, and do not require mitigation. Therefore, the proposed project would not result in environmental effects that cause substantial adverse effects on human beings either directly or indirectly.

CHAPTER 5
SUMMARY OF MITIGATION MEASURES

The following mitigation measures would be implemented by DPR as part of the Pig Pond & Bear Hide Lake Dam Failure Project.

AESTHETICS
MITIGATION MEASURES AESTHETICS-1

STANDARD PROJECT REQUIREMENTS AES - 1: SCENIC VIEWS	• Do not alter viewscapes to expose structures or undesirable views along scenic highways or scenic viewing locations. • Maximize the use of salvaged mature vegetation to reduce the time of regrowth. Rehabilitate and remove all construction related impacts to pre-project or better than pre-project conditions.

AGRICULTURAL RESOURCES
MITIGATION MEASURES AG-1

- *"No mitigation measures required"*

AIR QUALITY
MITIGATION MEASURES AIR-1

STANDARD PROJECT REQUIREMENT AIR-1: EMISSIONS OF FUGITIVE DUST AND OZONE	• All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions while in use by large machinery for project actions. • All trucks hauling soil or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. • All construction related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all state and federal requirements. • Potential dust producing actions will be suspended if sustained winds exceed twenty five (25) miles mph, instantaneous gusts exceed thirty five (35) mph, or dust from construction might obscure driver visibility on public roads. • Earth or other material that is transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed. • Idling time will be minimized to ten (10) minutes for all diesel-powered equipment.

	• Stockpiles of material that are susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material.
STANDARD PROJECT REQUIREMENT AIR-1: MATERIAL STORAGE AND DISPOSAL	• Stockpiled soils will be adequately covered to prevent sedimentation from runoff and wind. All hazardous materials will be stored in upland areas in storage trailers and/ or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted provided the same containment precautions are taken as described for hazardous materials storage. All construction materials, wastes, debris, sediment, rubbish, trash, and fencing will be removed from the site once project construction is complete and transported to an authorized disposal area, as appropriate, in compliance with applicable Federal, State, and local laws and regulations. No disposal of construction materials or debris will occur in a floodplain.

BIOLOGICAL RESOURCES-
STANDARD MITIGATION MEASURES

AMM-13 Work Area Designation to Minimize Disturbance:

- DPR will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever possible, existing vegetation will be salvaged from the project area and stored for replanting after earthmoving activities are completed. Topsoil will be removed, stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into covered species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible. Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.

AMM-14 Access Routes and Staging Areas:

- When working on stream banks or floodplains, disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to sensitive habitats (e.g., stream banks, stream channel, and riparian habitat) as much as possible. When possible,

existing ingress or egress points will be used and/ or work will be performed from the top of the stream banks. After completion of the work, the contours of the streambed, vegetation, and stream flows will be returned to their pre-construction condition or better.

- All staging and material storage areas, including the locations where equipment and vehicles are parked overnight, will be placed outside of the flood zone of a watercourse, above areas of tidal inundation, away from riparian habitat or wetland habitat, and away from any other sensitive habitats. When possible, staging and access areas will be situated in areas that are previously disturbed, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation.

AMM-14 Access Routes and Staging Areas:

- When working on stream banks or floodplains, disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to sensitive habitats (e.g., stream banks, stream channel, and riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/ or work will be performed from the top of the stream banks. After completion of the work, the contours of the streambed, vegetation, and stream flows will be returned to their pre-construction condition or better.
- All staging and material storage areas, including the locations where equipment and vehicles are parked overnight, will be placed outside of the flood zone of a watercourse, above areas of tidal inundation, away from riparian habitat or wetland habitat, and away from any other sensitive habitats. When possible, staging and access areas will be situated in areas that are previously disturbed, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation.

AMM-15 Environmental Awareness Training for Construction Personnel:

- All construction personnel will be given environmental awareness training by the project's environmental inspector or biological monitor before the start of construction. The training will familiarize all construction personnel with the covered species that may occur onsite, their habitats, general provisions and protections afforded by the Act, measures to be implemented to protect these species, and tl1e project boundaries. This training will be provided within three days of the arrival of any new worker.
- As part of the environmental awareness training, construction personnel ·will be notified that no dogs or any other pets under control of construction personnel will be allowed in the construction area, and that no firearms will be permitted in the construction area, unless carried by authorized security personnel or law enforcement.

AMM-16 Biological Monitor:

- If a project involves activities that may result in take of a covered species, as defined by the Act, a Service-approved biologist will be present onsite for all construction activities that occur within 100 feet of habitat for those species. If a Service-approved biologist is needed, DPR will submit the biologist's qualifications to the Service for approval 30 days prior to project construction. The Service-approved biologist will ensure that all applicable avoidance and minimization measures in the programmatic biological opinion are implemented during project construction. The Service-approved biologist will also ensure that all vehicles entering the site are free of debris

that may harbor organisms that could be introduced to the site, such as vegetation or mud from other aquatic areas. The Service-approved biologist will also ensure that turbidity, sedimentation, and the release of materials such as dust or construction runoff are controlled, and that spill control measures are enacted properly. The Service-approved biologist will oversee construction activities to ensure that no covered species and/ or their habitats are adversely affected. The Service-approved biologist will have the authority to stop any work activities that may result in potential adverse effects to covered species and/ or their habitats.

AMM-18 Entrapment Prevention:

- To prevent entrapment of covered species, all vertically sided holes or trenches will be covered at the end of the workday, or have escape ramps built into the walls of the excavation. If pipes are stored onsite or in associated staging areas, they will be capped when not in use. Construction materials that have the potential to entangle or entrap wildlife will be properly contained so that wildlife cannot interact with the materials. If a covered species is identified onsite, crews will immediately stop work within 50 feet of the individual, and inform the construction supervisor and the Service-approved biologist. Work will not continue within 50 feet of the individual until it has traveled off the project site of its own volition. For covered species, please refer to the species-specific Conservation Measures section of the programmatic biological opinion.

AMM-19 Water Quality Protection:

- Contractors will exercise every reasonable precaution to protect covered species and their critical habitats from construction byproducts and pollutants, such as construction chemicals, fresh cement, saw-water, or other deleterious materials. Fresh cement or uncured concrete will not be allowed to come into contact with any waterway. Construction waste will be collected and transported to an authorized upland disposal area, as appropriate, and per Federal, State, and local laws and regulations. DPR will follow the best management practices described in *The Use if Treated Wood Products in Aquatic Environments* guidelines (NOAA Fisheries 2009). Although this guidance focuses on the effects of the contaminants on Pacific salmonids protected under the Act, this guidance may still apply for general water quality protection and other federally-protected species. This guidance will be used in conjunction with site-specific evaluations of other potential impacts. Riprap will be clean and durable, free from dirt, sand, clay, and rock fines and will be installed to withstand the 100-year flood event. If applicable, appropriate measures will be taken to minimize disturbance to potentially contaminated sediments.

GEN AMM-21 Restoration of Upland Areas to Pre-Project Conditions:

- For projects that require restoration of upland areas to pre-project conditions as a result of ground disturbance during construction activities, DPR will use native plants to the maximum extent practicable. Similarly, when hydroseeding, only native seed mix will be used.

GEN AMM-22 Invasive Aquatic Species:

- DPR will follow the guidelines in the California Department of Fish and Wildlife's (CDFW's) *California Aquatic Invasive Species Management Plan* to prevent the spread of invasive aquatic plant and animal species (CDFW 2008). Construction equipment will be clean of debris or

material that may harbor seeds or invasive pests before entering the work area. This debris or material includes dirt on construction equipment, tools, boots, pieces of vegetation, and water in the bilge of boats. All aquatic sampling equipment will be sterilized using appropriate guidelines before its use in aquatic habitats.

GEN AMM-23 Work below Mean Higher High Water:

- In freshwater, estuarine, and marine areas that support covered species, disturbance to habitat below mean higher high water will be limited to the maximum extent possible.

AMM-26 Water Diversion and Dewatering:

- In-channel work and channel diversion of live flow during project construction will be conducted in a manner to reduce impacts to covered species. Dewatering will be used to create a dry work area and will be conducted in a manner that minimizes turbidity into nearby waters. Water diversion and dewatering will include the following measures:
  f. Heavy equipment will avoid flowing water other than temporary crossing or diverting activities.
  g. If covered species may be present in the areas to be dewatered, relocation will be conducted by a Service-approved biologist in accordance with applicable Service species-specific Conservation Measures. Because this measure involves take of a species, it is only applicable to covered species for which an Incidental Take Statement is provided.
  h. Water pumped or removed from dewatered areas will be treated before its release so that it does not contribute to turbidity in nearby waters.
  i. Temporary culverts to convey live flow during construction activities will be placed at stream grade and be of an adequate size as to not increase stream velocity.
  j. Silt fences or mechanisms to avoid sediment input to the flowing channel will be erected adjacent to flowing water if sediment input to the stream may occur.

CRLF and CTS Specific Conservation Measures

CRLF CTS-2 Seasonal Avoidance:

- Project activities will be scheduled to minimize adverse effects to the California red-legged frog and California tiger salamander and their habitat. Disturbance to upland habitat will be confined to the dry season, generally May 1 through October 15 (or the first measurable fall rain of 1" or greater) because that is the time-period when California red-legged frogs and California tiger salamanders are less likely to be moving through upland areas. However, if unavoidable, conduct grading and other disturbance in pools and ponds only when they are dry, typically between July 15 and October 15. Work within a pool or wetland may begin prior to July 15 if the pool or wetland has been di-y for a minimum of 30 days prior to initiating work.

CRLF CTS-3 Rain Event Limitations:

- To the maximum extent practicable, no construction activities will occur during rain events or within 24 hours following a rain event. Prior to construction activities resuming, a DPR-approved biologist will inspect the Project Area and all equipment/materials for the presence of California red-legged frogs and California tiger salamanders. Construction may continue 24 hours after the rain ceases if no precipitation is forecasted within 24-hours. If rain exceeds 0.5

inches during a 24-hour period; work will cease until no further rain is forecasted. The Service may approve modifications to this timing on a case-by-case basis.

CRLF CTS-4 Pre-construction Survey:

- No more than 24 hours prior to the date of initial ground disturbance and vegetation clearing, a DPR-approved biologist with experience in the identification of all life stages of the California red-legged frog and California tiger salamander and designated critical habitat will conduct a pre-construction survey at the project site. The survey will consist of walking the project limits and within the project site to determine possible presence of the species. The DPR-approved biologist will investigate all areas that could be used by California Red Legged Frogs and California tiger salamanders for feeding, breeding, sheltering, movement, and other essential behaviors, such as small woody debris, refuse, burrows entries, etc.

CRLF CTS-5 Daily Clearance Surveys:

- The DPR-approved biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may result in take of California red-legged frogs and California tiger salamanders.

CRLF CTS-6 Environmentally Sensitive Areas:

- Prior to the start of construction, Environmentally Sensitive Areas (ESAs) - defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed - will be clearly delineated using high visibility orange fencing. The ESA fencing will remain in place throughout the duration of the proposed action, while construction activities are ongoing, and will be regularly inspected and fully maintained at all times. The final project plans will depict all locations where ESA fencing will be installed and will provide installation specifications. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction related activities including vehicle operation, material and equipment storage, access roads and other surface-disturbing activities ,within ESAs. With prior approval from the Service, a hybrid ESA/WEF fencing material that is both hi-visibility and impermeable to wildlife movement may be used in place of paired ESA fencing and WEF fencing. Also with prior approval from the Service, an exception to the foregoing fencing measures may apply on a case-by-case basis during the following situations: (1) at work sites where the duration of work activities is very short (e.g., 3 days or less), the work activities occur during the dry season, and the installation of ESA fencing will result in more ground disturbance than from project activities; or (2) at work sites where the substrate (i.e., rock, shale, etc.) or topography (i.e., slopes> 30 degrees) inhibit the safe and proper installation of fencing materials. In these cases, biological monitoring will occur during all project activities at that site.

CRLF CTS-7 Wildlife Exclusion Fencing:

- Prior to the start of construction, Wildlife Exclusion Fencing (WEF) will be installed at the edge of the project footprint in all areas where California red-legged frogs and California tiger salamanders could enter the construction area. The onsite Project Manager and the DPR-approved biologist will determine location of the fencing prior to the start of staging or surface disturbing activities.

g. Exclusion fencing will be at least 3 feet high and the lower 6 inches of the fence will be buried in the ground to prevent animals from crawling under. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface.
h. Such fencing will be inspected and maintained daily by the DPR-approved biologist until completion of the project and removed only when all construction equipment is removed from the site
i. The WEF specifications will be included the final project plans and in the bid solicitation package (special provisions) and will include the WEF specifications including installation and maintenance criteria.
j. The WEF will remain in place throughout the duration of the project and will be regularly inspected and fully maintained. Repairs to the WEF will be made within 24 hours of discovery. Upon project completion the WEF will be completely removed, the area cleared of debris and trash, and returned to natural conditions.
k. With prior approval from the Service, an exception to the foregoing fencing measures may apply on a case-by-case basis during the following situations: 1) at work sites where the duration of work activities are very short (e.g., 3 days or less), the work activities occur during the dry season, and the installation of exclusion fencing will result in more ground disturbance than from project activities; or (2) at work sites where the substrate (i.e., rock, shale, etc.) or topography (i.e., slopes> 30 degrees) inhibit the safe and proper installation of fencing materials. In these cases, species monitoring will occur during all project activities at that site. Modifications to this fencing measure may be made on a case-by-case basis with approval from the Service.
l. With prior approval from the Service, a hybrid ESA/WEF fencing material that is both high visibility and impermeable to wildlife movement may be used in place of paired ESA fencing and WEF fencing.

CRLF CTS-8 Entrapment Prevention:

- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 6 inches deep will be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. The DPR-approved biologist will inspect all holes and trenches at the beginning of each workday and before such holes or trenches are filled. All replacement pipes, culverts, or similar structures stored in the Project Area overnight will be inspected before they are subsequently moved, capped, and/ or buried. If at any time a California red-legged frog or California tiger salamander is discovered, the onsite Project Manager and DPR approved biologist will be notified immediately and the DPR-approved biologist will implement the species observation and handling protocol. If handling is necessary, work will be suspended until the appropriate level of coordination is complete.

CRLF CTS-9 Encounters with Species:

- Each encounter with a California red-legged frog or California tiger salamander will be treated on a case-by-case basis. If any life stage of the California red-legged frog or California tiger salamander is found and these individuals may be killed or injured by work activities, the following will apply:

c. If California red-legged frogs or California tiger salamanders are detected in the Project Area, work activities within 50 feet of the individual that may result in the harm, injury, or death to the animal will cease immediately and the onsite Project Manager and DPR-approved biologist will be notified. Based on the professional judgment of the DPR-approved biologist, if project activities can be conducted without harming or injuring the California red-legged frog and California tiger salamander, it may be left at the location of discovery and monitored by the DPR-approved biologist. All project personnel will be notified of the finding and at no time will work occur within 50 feet of a California red-legged frog and California tiger salamander without a DPR-approved biologist present.
d. To the maximum extent possible, contact with the individual frog or salamander will be avoided and it will be allowed to move out of the hazardous situation of its own volition. This procedure applies to situations where a California red-legged frog and California tiger salamander is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species if the individual moves away from the hazardous location.

CRLF CTS-10 Species Observations and Handling Protocol:

- If a California red-legged frog or California tiger salamander does not leave the work area, the DPR-approved biologist will implement the species observation and handling protocol outlined below. Only DPR-approved biologists will participate in activities associated with the capture, handling, relocation, and monitoring of California red-legged frogs and California tiger salamanders.
  f. Prior to handling and relocation, the DPR-approved biologist will take precautions to prevent introduction of amphibian diseases in accordance with the Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (Service 2003c). Disinfecting equipment and clothing is especially important when biologists are coming to the Project Area to handle amphibians after working in other aquatic habitats. California red-legged frogs and the Sonoma and Central California tiger salamanders will also be handled and assessed according to the Restraint and Handling of Live Amphibians (USGS National Wildlife Health Center 2001).
  g. California red-legged frogs and California tiger salamanders will be captured by hand, dip net, or other DPR-approved methodology, transported and relocated to nearby suitable habitat outside of the work area and released as soon as practicable the same day of capture. Individuals will be relocated no greater than 300 feet outside of the project site to areas with an active rodent burrow or burrow system (unless otherwise approved by the Service and with written landowner permission). Holding/transporting containers and dip nets will be thoroughly cleaned, disinfected, and rinsed with freshwater prior to use within the Project Area. The Service will be notified within 24 hours of all capture, handling, and relocation efforts.
  h. If an injured California red-legged frog or California tiger salamander is encountered and the DPR-approved biologist determines the injury is minor or healing and the salamander is likely to survive, the salamander will be released immediately, consistent with measure 12.b above. The California red-legged frogs and the Sonoma and Central California tiger salamander will be monitored until it is determined that it is not imperiled by predators or other dangers.

i. If the DPR-approved biologist determines that a California red-legged frog or California tiger salamander has major or serious injuries as a result of project-related activities the DPR-approved biologist, or designee, will immediately take it to a DPR-approved facility. If taken into captivity the individual will remain in captivity and not be released into the wild unless it has been kept in quarantine and the release is authorized by the Service. DPR will bear any costs associated with the care or treatment of such injured California red-legged frogs or California tiger salamanders. The circumstances of the injury, the procedure followed and the final disposition of the injured animal will be documented in a written incident report to the Service as described below.

j. Notification to the Service of an injured or dead California red-legged frog or California tiger salamander in the Project Area will be made and reported whether or not its condition resulted from project-related activities. In addition, the DPR-approved biologist will follow up with the Service in writing within 2 calendar days of the finding. Written notification to the Service will include the following information: the species, number of animals taken or injured, sex (if known), date, time, location of the incident or of the finding of a dead or injured animal, how the individual was taken, photographs of the specific animal, the names of the persons who observe the take and/ or found the animal, and any other pertinent information. Dead specimens will be preserved, as appropriate, and will be bagged and labeled (i.e. species type; who found or reported the incident; when the report was made; when and where the incident occurred; and if possible, the cause of death). Specimens will be held in a secure location until instructions are received from the Service regarding the disposition of the specimen.

CRLF CTS-11 Environmental Awareness Training:

- Prior to the start of construction, a DPR approved biologist with experience in the ecology of the California red-legged frog and California tiger salamander as well as the identification of all its life stages will conduct a training program for all construction personnel including contractors and subcontractors. Interpretation for non-English speaking workers will be provided. All construction personnel will be provided a fact sheet conveying this information. The same instruction will be provided to any new workers before they are authorized to perform project work. The training will include, at a minimum:
    - Habitat within the Project Area;
    - An explanation of the species status and protection under state and federal laws;
    - The avoidance and minimization measures to be implemented to reduce take of this species;
    - Communication and work stoppage procedures in case a listed species is observed within the Project Area; and
    - An explanation of the importance of the Environmentally Sensitive Areas (ESAs) and Wildlife Exclusion Fencing (WEF).

CRLF CTS-12 Disease Prevention and Decontamination Procedures:

- To ensure that diseases are not conveyed between work sites by the DPR-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times. A copy of the code of practice can be found at the bottom of this appendix.

CRLF CTS- 13 Pump Screens:

- If a water body is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 5 millimeters and the intake will be placed within a perforated bucket or other method to attenuate suction to prevent California red-legged frogs and California tiger salamanders from entering the pump system. Pumped water will be managed in a manner that does not degrade water quality and upon completion be released back into the water body, or at an appropriate location in a manner that does not cause erosion. No rewatering of the water body is necessary if sufficient surface or subsurface flow exists to fill it within a few days, or if work is completed during the time of year the water body will have dried naturally. To avoid effects to eggs and larvae, work within seasonal ponds will be conducted when the pond has been dry naturally for at least 30 days.

CRLF CTS- 14 Hand Clear vegetation:

- Hand clear vegetation in areas where California red-legged frogs and California tiger salamanders are suspected to occur. All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site. A DPR approved biologist will be present during all vegetation clearing and grubbing activities. Prior to vegetation removal, the DPR-approved biologist will thoroughly survey the area for California red-legged frogs and California tiger salamanders. Once the DPR-approved biologist has thoroughly surveyed the area, clearing and grubbing may continue without further restrictions on equipment; however, the DPR-approved biologist will remain onsite to monitor for California red-legged frogs and California tiger salamanders until all clearing and grubbing activities are complete.

CRLF CTS- 16 Accidental Spills, SWPPP, Erosion Control, and BMPs:

- Prior to the onset of work, a plan will be in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to implement if a spill occurs. Storm-water pollution prevention plans and erosion control BMPs will be developed and implemented to minimize any wind- or water-related erosion. These provisions will be included in construction contracts for measures to protect sensitive areas and prevent and minimize storm-water and non-storm-water discharges. Protective measures will include, at a minimum:
    - No discharge of pollutants from vehicle and equipment cleaning is allowed into any storm drains or watercourses.
    - Vehicle and equipment fueling and maintenance operations must be at least 50 feet away from aquatic or riparian habitat and not in a location where a spill may drain directly toward aquatic habitat, except at established commercial gas stations or at an established vehicle maintenance facility. The monitor will implement the spill response plan to ensure contamination of aquatic or riparian habitat does not occur during such operations.
    - Concrete wastes will be collected in washouts and water from curing operations is to be collected and disposed of properly. Neither will be allowed into watercourses.
    - Spill containment kits will be maintained onsite at all times during construction operations and/ or staging or fueling of equipment.

- Dust control will be implemented, and may include the use of water trucks and non-toxic tackifiers (binding agents) to control dust in excavation and fill areas, rocking temporary access road entrances and exits, and covering of temporary stockpiles when weather conditions require.
- Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, etc. along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas. No erosion control materials that use plastic or synthetic monofilament netting will be used.
- Permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from paved roads or other impervious surfaces will be incorporated to the maximum extent practicable.
- All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any aquatic habitat, culvert, or drainage feature.

CRLF CTS- 17 Site Restrictions:

- The following site restrictions will be implemented to avoid or minimize effects on the listed species and its habitat:
    - A speed limit of 15 miles per hour (mph) in the project footprint in unpaved areas will be enforced to reduce dust and excessive soil disturbance.
    - Construction and ground disturbance will occur only during daytime hours, and will cease no less than 30 minutes before sunset and may not begin again earlier than 30 minutes after sunrise.
    - Except when necessary for driver or pedestrian safety, to the maximum extent practicable, artificial lighting at a project site will be prohibited during the hours of darkness.
    - Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.
    - To the maximum extent practicable, any borrow material will be certified to be non-toxic and weed free.
    - All food and food-related trash items will be enclosed in sealed trash containers and properly disposed of offsite.
    - No pets will be allowed anywhere in the Project Area during construction.

CRLF CTS- 18 Suitable Erosion Control Materials:

- To prevent California red-legged frogs and California tiger salamanders from becoming entangled, trapped, or injured, erosion control materials that use plastic or synthetic monofilament netting will not be used within the Project Area. This includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers. Following site restoration, erosion control materials, such as straw wattles, will not block movement of the California red-legged frog and California tiger salamander.

CRLF CTS- 19 Limitation on Insecticide/Herbicide Use:

- Insecticides or herbicides will not be applied at the project site during Construction where there is the potential for these chemical agents to enter creeks, streams, waterbodies, or uplands that contain habitat for the California red-legged frog and California tiger salamander.

CRLF CTS-20 Limitation on Rodenticide Use:

- No rodenticides will be used at the project site during construction or long-term operational maintenance in areas that support suitable upland habitat for the California red-legged frog and California tiger salamander.

CRLF CTS-21 Invasive Non-Native Plant Species Prevention:

- The DPR-approved biologist will ensure that the spread or introduction of invasive non-native plant species, via introduction by arriving vehicles, equipment, imported gravel, and other materials, will be avoided to the maximum extent possible. When practicable, invasive non-native plants in the Project Area will be removed and properly disposed of in a manner that will not promote their spread. Areas subject to invasive non-native weed removal or disturbance will be replanted with appropriate mix of fast-growing native species. Invasive non-native plant species include those identified in the California Invasive Plant Council's (Cal-IPC) Inventory Database, accessible at: www.calipc.org/ip/inventory/ index. php.

CRLF CTS-23 Removal of Non-Native Species:

- A DPR-approved individual will permanently remove from within the Project Area, any individuals of non-native species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The DPR is responsible for ensuring that these activities are in compliance with the California Fish and Game Code. No conversion of seasonal breeding aquatic habitat to perennial aquatic breeding habitat is allowed under this programmatic biological opinion. Creating new perennial water bodies in the vicinity of California red-legged frog or California tiger salamander populations where the ponds could be colonized by predators will also be avoided. Larval mosquito abatement efforts will be avoided in occupied breeding habitat for the species.

CRLF CTS-24 Restore Contours of Temporarily Disturbed Areas:

- Habitat contours will be returned to their original configuration at the end of project activities in all areas that have been temporarily disturbed by activities associated with the project, unless the DPR and the Service determine that it is not feasible, or modification of original contours will benefit the California red-legged frog and California tiger salamander.

CRLF CTS-25 Use of Native Plants for Revegetation:

- Plants used in revegetation will consist of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. This measure will be implemented in all areas disturbed by activities associated, with the project, unless the DPR and the Service determine that it is not feasible or practical. Preferred emergent vegetation includes spike rushes (Eleocharis spp.), rushes (Juncus spp.), bulrushes (Schoenoplectus spp.), cattails (Typha spp.), and willows (Salix spp.).

CRLF CTS-26 Practices to Prevent Pathogen Contamination in Revegetation and Restoration:

- The DPR will refer to the following restoration design considerations and practices to help prevent pathogen contamination in revegetation and restoration as published by the Working Group for *Phytophthora* in Native Habitats in order to address the risk of introduction and spread of *Phytophthora* and other plant pathogens in site plantings:
  f) Design restoration with lower initial plant density. Planting large quantities of nursery plants increases the likelihood that some of those plants may be infested with *Phytophthora* or other plant pathogens. The greater the number of plants installed the higher the risk for pathogen introduction. The closer the plants are to one another the higher the likelihood of pathogen spread.
  g) To the extent possible, use direct seeding of native plant seeds or cuttings instead of container stock. Planting locally collected seeds or cuttings rather than installing container stock can minimize the risk of introducing pathogens to a site.
  h) Ensure the use of clean nursery stock. To prevent and manage the introduction and spread of *Phytophthora* and other plant pathogens during revegetation and restoration activities, it is essential that projects use clean nursery stock grown with comprehensive best management practices.
  i) Prevent contamination in site preparation, installation, and maintenance. Implementing best management practices to prevent pathogen introduction and spread is also critical during all other phases of revegetation and restoration to reduce contamination risk. For detailed guidance on how to prevent and manage *Phytophthora* during various aspects of restoration, including nursery plant production, see The Phytophthora in Native Habitats Work Group "Restoration Guidance" at www.calphytos.org.
  j) Reduce the potential for pathogen spread and introduction due to movement or use of non-sanitized vehicles, tools, footwear or inadvertent use of contaminated materials (e.g. soil erosion protection wattles and mulch, or non-sanitized materials recycled from other projects such as rebar, fencing materials, etc.). Fundamental principles include:
  IV. Minimize project footprint and soil disturbance. Keep the number of vehicles passthroughs and other disturbances during site activities to the least necessary. Avoid visits when conditions are wet, and areas are muddy. Park vehicles in designated staging areas.
  V. Follow sanitation practices. *Phytophthora* and many other pathogens move when contaminated soil is transferred on vehicle tires, footwear, on contaminated tools or infested plant materials. Follow sanitation best management practices: tools, boots, and vehicles will be visibly free of soil before and after use.
  VI. Promote prevention through education. Ensure that onsite personnel are aware of the risk of inadvertent pathogen introductions and understand how to prevent pathogen introduction and spread. A pre-project meeting that provides appropriate BMP training to all workers and oversight managers who will be onsite during the project will help avoid confusion and delays in the field and will ensure in advance that everyone understands the project goals related to pathogen prevention.

CULTURAL RESOURCES
MITIGATION MEASURES CULT-1

STANDARD PROJECT REQUIREMENT CULT-1: MONITORING	• At the discretion of the project archaeologist, a DPR-qualified archaeologist will monitor ground-disturbing activities for this project. The archaeologist will have the authority to stop construction work in the area of the find and evaluate it and implemented appropriate treatment measures to avoid having a significant impact to historical resources per PRC 15064.5.
STANDARD PROJECT REQUIREMENT CULT-2: HUMAN REMAINS OR BURIAL ARTIFACTS	• In the event that human remains were discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor would be responsible for notifying the appropriate Native American authorities. • If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination. • If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC or Tribal Cultural Representatives will also occur as necessary to define additional site mitigation or future restrictions.
STANDARD PROJECT REQUIREMENT CULT-3: UNDOCUMENTED CULTURAL RESOURCES	• In the event that previously undocumented cultural resources are encountered during project construction (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash), work within the immediate vicinity of the find will stop until DPR-qualified cultural resource specialist has evaluated the find and implemented appropriate treatment measures to avoid have a significant impact to historical resources per PRC 15064.5

ENERGY

MITIGATION MEASURES

- *"No mitigation measures required"*

GEOLOGY AND SOILS

MITIGATION MEASURES GEO-1

EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION GEO-1	• The DPR Contractor will install long-term erosion control measures for any areas where ground disturbing activities result in bare soil areas. The soil will be properly decompacted and mulched or revegetated with appropriate native grass seed, sterile grass seed, and/or native duff with the final selection made by a DPR-qualified representative. • DPR will prepare an Erosion Control Plan, as needed. The Erosion Control Plan will detail the erosion and sedimentation prevention measures required. As part of this plan, DPR will ensure that sediment-control devices are installed and maintained correctly. For example, sediment will be removed from engineering controls once the sediment has reached one-third of the exposed height of the control. The devices will be inspected frequently (i.e., daily or weekly, as necessary) to ensure that they are functioning properly; controls will be immediately repaired or replaced, or additional controls will be installed as necessary. Sediment that is captured in these controls may be disposed of onsite in an appropriate, safe, approved area or offsite at an approved disposal site. • Areas of soil disturbance, including temporarily disturbed areas, will be seeded with a regionally appropriate erosion control seed mixture. On soil slopes with an angle greater than 30 percent, erosion control blankets will be installed, or a suitable and approved binding agent will be applied. Runoff will be diverted away from steep or denuded slopes. • Where habitat for covered species is identified within, or adjacent to, the project footprint, all disturbed soils at the site will undergo erosion control treatment before the rainy season starts and after construction is terminated. Treatment may include temporary seeding and sterile straw mulch.

HAZARDS AND HAZARDOUS MATERIALS
MITIGATION MEASURES HAZMAT

STANDARD PROJECT REQUIREMENT HAZMAT-1:	• Prior to the start of construction, all equipment will be cleaned before entering the project site. During the project, equipment will be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site at a lawfully permitted or authorized destination.

STANDARD PROJECT REQUIREMENT HAZMAT-2: EQUIPMENT INSPECTION AND MAINTENANCE:	• Well-maintained equipment will be used to perform the work and, except in the case of a failure or breakdown, equipment maintenance will be performed offsite. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed. Fueling of land- and marine-based equipment will be conducted in accordance with procedures to be developed in the Spill Prevention and Pollution Control Plan. • Vehicles and equipment that are used during the course of a project will be fueled and serviced in a "safe" area (i.e., outside of sensitive habitats) in a manner that will not affect covered species or their habitats. Spills, leaks, and other problems of a similar nature will be resolved immediately to prevent unnecessary effects on covered species and their habitats. A plan for the emergency cleanup of any spills of fuel or other material will be available onsite, and adequate materials for spill cleanup ·will be maintained onsite.
STANDARD PROJECT REQUIREMENT HAZMAT-3: FUELING ACTIVITIES:	• Avoidance and minimization measures will be applied to protect covered species and their habitats from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during project implementation will be fueled and serviced in a manner that will not affect covered species or their habitats. Machinery and equipment used during work will be serviced, fueled, and maintained on uplands to prevent contamination to surface waters. Fueling equipment and vehicles will be kept more than 200 feet away from waters of the United States.
STANDARD PROJECT REQUIREMENT HAZMAT-4: EQUIPMENT STAGING:	• No staging of construction materials, equipment, tools, buildings, trailers, or restroom facilities will occur in a floodplain during flood season at the proposed project location, even if staging is only temporary.

SPILL PREVENTION AND RESPONSE	• DPR will exercise every reasonable precaution to protect covered species and their habitats from pollution due to fuels, oils, lubricants, construction by-products, and pollutants such as construction chemicals, fresh cement, saw-water, or other harmful materials. Water containing mud, silt, concrete, or other byproducts or pollutants from construction activities will be treated by filtration, retention in a settling pond, or similar measures. Fresh cement or concrete will not be allowed to enter the flowing water of streams and curing concrete will not come into direct contact with waters supporting covered species. Construction pollutants will be collected and transported to an authorized disposal area, as appropriate, per all Federal, State, and local laws and regulations. • To reduce bottom substrate disturbance and excessive turbidity, removal of existing piles by cutting at the substrate surface or reverse pile driving with a sand collar at the base to minimize resuspension of any toxic substances is preferable; hydraulic jetting will not be used. • No petroleum product chemicals, silt, fine soils, or any substance or material deleterious to covered species will be allowed to pass into or be placed where it can pass into a stream channel. There will be no side-casting of material into any waterway. • All concrete or other similar rubble will be free of trash and reinforcement steel. No petroleum-based products (e.g., asphalt) will be used as a stabilizing material. • DPR will store all hazardous materials in properly designated containers in a storage area with an impermeable membrane between the ground and the hazardous materials. The storage area will be encircled by a berm to prevent the discharge of pollutants to ground water or runoff into the habitats of covered species. A plan for the emergency cleanup of any hazardous material will be available onsite, and adequate materials for spill cleanup will be maintained onsite.

STANDARD PROJECT REQUIREMENT HAZMAT-5: WILDFIRE AVOIDANCE AND RESPONSE	• A Fire Safety Plan will be developed by a DPR-approved forester, prior to the start of construction. • Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment. • Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked on roads or staging areas to reduce the chance of fire. • With the exception of vegetation-clearing equipment, no vehicles or construction equipment will be operated in areas of tall, dry vegetation. • DPR will develop and implement a fire prevention and suppression plan for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire.

HYDROLOGY AND WATER QUALITY
MITIGATION MEASURES HYDRO-1

STANDARD PROJECT REQUIREMENT HYDRO-1:	• Best Management Practices (BMPs) will be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during any ground disturbing activities as approved by the Regional Water Quality Control Board.

LAND USE AND PLANNING
MITIGATION MEASURES
- *"No mitigation measures required"*

MINERAL RESOURCES
MITIGATION MEASURES
- *"No mitigation measures required"*

NOISE
MITIGATION MEASURES

STANDARD PROJECT REQUIREMENT NOISE-1: NOISE EXPOSURE	• Internal combustion engines used for any purpose in the project areas will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for project related activities will utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary. • Stationary noise sources and staging areas will be located as far from visitors as possible. If they must be located near visitors, stationary noise sources will be muffled to the extent feasible, and/or where practicable, enclosed within temporary sheds.
PROJECT SPECIFIC REQUIREMENT NOISE-2: WORK HOURS	• Project related activities will generally be limited to the daylight hours, Monday through Friday. However, weekend work may be implemented to accelerate construction or address emergency or unforeseen circumstances. No work shall occur before 8:00 am or after 6:00 pm. • Construction activities that may affect suitable habitat for covered species will be limited to daylight hours during weekdays, leaving a nighttime and weekend period for the species. Work will be allowed on weekends if the proposed construction is 14 days or less in length.

POPULATION AND HOUSING
MITIGATION MEASURES

- *"No mitigation measures required"*

PUBLIC SERVICES
MITIGATION MEASURES

- *"No mitigation measures required"*

RECREATION
MITIGATION MEASURES

STANDARD PROJECT REQUIREMENT REC 1:	• During construction, bike and pedestrian access to adjacent trails will be clearly delineated and signed. Periodic road closures will be posted and alternative routes, if available will be identified.
STANDARD PROJECT REQUIREMENT REC 2: WORK AREA DESIGNATION TO MINIMIZE DISTURBANCE	• DPR will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever possible, existing vegetation will be salvaged from the project area and stored for replanting after earthmoving activities are completed. Topsoil will be removed, stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into covered species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible.

	• Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.

TRANSPORTATION/TRAFFIC
MITIGATION MEASURES

STANDARD PROJECT REQUIREMENT TRAFFIC-1: TRAFFIC CONTROL PLAN	• Prior to commencing construction, the contractor shall prepare a traffic control plan that includes the following components: • Exclusionary fencing will be placed along the project limits, as necessary, to exclude non-construction personnel from the construction area. • Speed limits shall be set for heavy equipment traveling to and from the project site by the State's Representative.

TRIBAL CULTURAL RESOURCES
MITIGATION MEASURES

STANDARD PROJECT REQUIREMENT CULT-1: MONITORING	• At the discretion of the project archaeologist, a DPR-qualified archaeologist, and local tribal representative will monitor ground-disturbing activities for this project. The archaeologist will have the authority to stop construction work in the area of the find and evaluate it and implemented appropriate treatment measures to avoid having a significant impact to historical resources per PRC 15064.5.

STANDARD PROJECT REQUIREMENT CULT-2: HUMAN REMAINS OR BURIAL ARTIFACTS	• In the event that human remains were discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor would be responsible for notifying the appropriate Native American authorities. • If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination. • If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC or Tribal Cultural Representatives will also occur as necessary to define additional site mitigation or future restrictions.
STANDARD PROJECT REQUIREMENT CULT-3: UNDOCUMENTED CULTURAL RESOURCES	• In the event that previously undocumented cultural resources are encountered during project construction (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash), work within the immediate vicinity of the find will stop until DPR-qualified cultural resource specialist has evaluated the find and implemented appropriate treatment measures to avoid have a significant impact to historical resources per PRC 15064.5

STANDARD PROJECT REQUIREMENT AIR-1: EMISSIONS OF FUGITIVE DUST AND OZONE	• All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions while in use by large machinery for project actions. • All trucks hauling soil or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. • All construction related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all state and federal requirements. • Potential dust producing actions will be suspended if sustained winds exceed twenty five (25) miles mph, instantaneous gusts exceed thirty five (35) mph, or dust from construction might obscure driver visibility on public roads. • Earth or other material that is transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed. • Idling time will be minimized to ten (10) minutes for all diesel-powered equipment.

The Declining Amphibian Task Force Fieldwork Code of Practice

A code of practice, prepared by the Declining Amphibian Task Force (DAPTF) to provide guidelines for use by anyone conducting field work at amphibian breeding sites or in other aquatic habitats. Observations of diseased and parasite-infected amphibians are now being frequently reported from sites all over the world. This has given rise to concerns that releasing amphibians following a period of captivity, during which time they can pick up unapparent infections of novel disease agents, may cause an increased risk of mortality in wild populations. Amphibian pathogens and parasites can also be carried in a variety of ways between habitats on the hands, footwear, or equipment of fieldworkers, which can spread them to novel localities containing species which have had little or no prior contact with such pathogens or parasites. Such occurrences may be implicated in some instances where amphibian populations have declined. Therefore, it is vitally important for those involved in amphibian research (and other wetland/pond studies including those on fish, invertebrates and plants) to take steps to minimize the spread of disease and parasites between study sites.

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires and all other surfaces. Rinse cleaned items with sterilized (e.g. boiled or treated) water before leaving each study site.

2. Boots, nets, traps, etc., should then be scrubbed with 70% ethanol solution (or sodium hypochlorite 3 to 6%) and rinsed clean with sterilized water between project sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland.

3. In remote locations, clean all equipment as described above upon return to the lab or "base camp". Elsewhere, when washing machine facilities are available, remove nets from poles and wash with bleach on a "delicates" cycle, contained in a protective mesh laundry bag.

4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolates species, wear disposable gloves and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean and store them separately and the end of each field day.

5. If amphibians encountered and need to be relocated, ensure the separation of animals from different sites and take great care to avoid indirect contact between them (e.g. via handling, reuse of containers) or with other captive animals. Isolation from un-sterilized plants or soils which have been taken from other sites is also essential. Always use disinfected/disposable handling equipment.

6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.

7. Used cleaning materials (liquids, etc.) should be disposed of safely. Used disposable gloves should be retained for safe disposal in sealed bags.

CHAPTER 6
REFERENCES

Aesthetics

Merced County Planning Department, Merced County 2030 General Plan, 2013. Natural Resource element Pg 261

Agricultural and Forest Resources

Farmland Mapping Staff. Important Farmland 2016 for Merced County. State of California Department of Conservation, Division of Land Resource Protection. Available online at https://www.conservation.ca.gov/dlrp/fmmp/Pages/County.aspxmonth, year (Release date-on ap). Accessed October, 2020.

Last Will of Paula Marie Fatjo. June, 1995

Air Quality

California Air Resources Board California Ambient Air Quality Standards CAAQS (2021) Accessed January 2021 Website: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards

California Air Resources Board National Ambient Air Quality Standards, NAAQS (2021) Accessed January 2021 Website: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards

California Air Pollution Control Officers Association, developed by BREEZE Software CalEEMod.2016.3.2. [computer software] Accessed October 2020

California Air Resources Board (CARB) Accessed December 2020 Website: https://ww2.arb.ca.gov/

Biological Resources

U.S. Fish and Wildlife Service. 2002. Recovery Plan for the California Red-legged Frog (Rana aurora draytonii). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

U.S. Fish and Wildlife Service. 2011 California Red-legged Frog (Rana aurora draytonii) Species Profile. Website: https://www.fws.gov/arcata/es/amphibians/crlf/crlf.html

U.S. Fish and Wildlife Service. 2017 California Red-legged Frog (Rana aurora draytonii) California Red-Legged Frog - Amphibians and Reptiles, Endangered Species Accounts. Website: https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/ca_red_legged_frog/

U.S. Fish and Wildlife Service. 2017 California Tiger Salamander (Ambystoma californiense) California Tiger Salamander - Amphibians and Reptiles, Endangered Species Accounts. Website: https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/ca_tiger_salamander/

U.S. Fish and Wildlife Service. 2017. Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. v + 69pp.'

Caitlin Jensen, FEMA Endangered species act Review Form Biological Assessment for Pig Pond Dam & Bear Pond Dam Repairs Service File # 08ESMFOO-2018-F-3331-11 (2018). On File at the Central Valley District Office.

California Department of Fish and Game Natural Diversity Database (CNDDB). Website: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data [Accessed 2021]

Service, U.S. Fish and Wildlife. "California Red-Legged Frog Species Profile." *Official Web Page of the U S Fish and Wildlife Service*, www.fws.gov/arcata/es/amphibians/crlf/crlf.html.

Veronica Davison, veronica_davison@fws.gov. "California Tiger Salamander - Amphibians and Reptiles, Endangered Species Accounts: Sacramento Fish & Wildlife Office." *Sacramento Fish and Wildlife*, www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/ca_tiger_salamander/.

Cultural Resources

CCaIC Record Search No. 105061
2017 Cultural Resource Research Search conducted by Dudek for the Gonzaga Ridge Wind Farm Project. On file at the Northern Service Center.

California State Parks
2006 Pacheco State Park: General Plan and Environmental Impact Report. On file at the Northern Service

Center. Crosby, Anthony
2003 *Gonzaga Adobe Stabilization Study Cultural Stewardship Project, Pacheco State Park, Santa Clara County, California*. Prepared by Architectural Conservation, LLC and Past Forward, Inc. for the California Department of Parks and Recreation, Four Rivers District. On file at the Northern Service Center.

Dick Bissonnette, Linda
2007 P-24-001856 DPR 523 site record (also known as "Gonzaga-Pacheco-Fatjo Ranch"). On file at the Northern Service Center.

Dixon, Sean and Jeremy Zorne
2018 Geocon Project No. S1350-05-05. Prepared for California State Parks by Gecon Consultants, Inc. On file at the Northern Service Center.

Fenenga, G.L.
1993 "Test Excavations at the Witt Site (CA-KIN-32)." In *Contributions to Tulare Lake Arcaheology II, Finding the Evidence: The Quest for Tulare Lake's Archaeological Past,* edited by W.J. Wallace and F.A. Riddell, 25-38. Tulare Lake Archaeological Research Group, Redondo Beach.

Giacinto, A., W. Burns, R. Brady, and M. Hale
2019 *Cultural Resources Inventory Report for the Gonzaga Ridge Wind Repowering Project*. Prepared by Dudek with the California Department of Parks and Recreation for the Gonzaga Ridge Wind Farm, LLC. On file at the Northern Service Center.

Golla, V.
2011 *California Indian Languages.* Los Angeles: University of California Press.

Kroeber, A.
1925 *Handbook of the Indians of California.* Washington D.C.: Smithsonian Institution.

Levy, Richard
1978 "Costanoan" in *Handbook of North American Indians, Vol. 8: California*. On file at the Northern Service Center.

Moratto, Michael J.
1984 *California Archaeology*. San Diego: Academic Press.

Munz, Phillip A.
1970 *A California Flora.* University of California Press, Los Angeles, California.

Olsen, William H. and Louis A. Payen
1969 *Archaeology of the Grayson Site, Merced County, California*. Department of Parks and Recreation Archaeological Report 13. On file at the Northern Service Center.

Osborne, Richard H.
1992 "An Ethnographic Overview of the Southern Valley Yokuts." In *Kern County Archaeological Society Journal,* Vol. 3, pgs 36-65

Pritchard, William E.
1970 *Archaeology of the Menjoulet Site, Merced County, California*. Department of Parks and Recreation Archaeological Report 13. On file at the Northern Service Center.

Riddell, F.A. and W.H. Olsen
1969 "An Early Man Site in the San Joaquin Valley, California." In *American Antiquity* 34 (2): 121-130.

Riddell, F.A. et al.
1968 "The Archeology of 4-MER-14 at San Luis Dam, Western Merced County, California". From "A Symposium on the Culture Sequence of the Kawatchwa Yokuts Area: The Archaeology of the Western San Joaquin Valley, California." On file at the Northern Service Center.

Special Research Collections, UCSB Library, University of California Santa Barbara

1939 Flight C-5750, dated October 21, 1939, frames: CIV-296-55, CIV-927-3, and CIV-927-4. Maintained and uploaded by the University of California, Santa Barbara. Accessed and saved to the Northern Service Center on August 28, 2019.
1955 Flight CIV-1956, dated June 8, 1956, frames: 4R-172, 4R-173, and 4R-174. Maintained and uploaded by the University of California, Santa Barbara. Accessed and saved to the Northern Service Center on August 28 2019.

Sutton, M.Q.
1997 "A Background for Archaeological Investigations at Buena Vista Lake, Southern San Joaquin Valley." In *Kern County Archaeological Society Journal* 8:3-21.

U.S. Department of the Interior National Park Service
1970 "San Luis Gonzaga Archaeological District", National Register of Historic Places Inventory Nomination Form. Submitted by William H. Olsen on behalf of the California Department of Parks and Recreation. Merced County, California. See also: "P-24-000489" California Primary Number listing in CCaIC.

U.S. Geological Survey
1955 "Pacheco Pass, CA" Quadrangle 7.5 Minute Series Topographic map. Maintained by the USGS Historical File Topographic Division. Accessed and saved to the Northern Service Center on August 28, 2019.

Waghorn, Annita
2006 *Research and Evaluation Issues for Ranching-Related Historic Archaeological Resources, Henry W. Coe State Park, Santa Clara and Stanislaus Counties, California.* Prepared by the Anthropological Studies Center at Sonoma State University for the Monterey District of California Department of Parks and Recreation. On file at the Northern Service Center.

Wallace, William J.
1978 "Northern Valley Yokuts" in *Handbook of North American Indians, Vol. 8: California*. On file at the Northern Service Center.

Wallace, W.J. and F.A. Riddell, eds.
1988 "Archaeological Background of Tulare Lake, California." In *Early Occupation in Far Western North America: The Clovis-Archaic Interface*, edited by J.A. Willi, C.M. Aikens, and J.L. Fagan, 87-101. Nevada State Museum Anthropological Papers No. 21, Carson City, Nevada.

Whatford, J.C., C. Dooley, and T. Goodirch
1996 Department of Parks and Recreation Fatjo-Archaeological Survey Report. On file at the Northern Service Center.

Energy

Scout Clean energy LLC. Gonzaga Ridge Project Website:
https://scoutcleanenergy.com/projects/project-x-12/

California State Parks, *Gonzaga Ridge Wind Repowering Project*, Environmental Impact Report October 2018

Geology and Soils

Rose, Karl. Geocon Consultants. Limited Geotechnical Investigation Pig Pond dam/ Bear Hide Lake Dam. May 15, 2018

National Geologic Map Database- USGS *Mapview. Accessed July 2021.* Website: https://ngmdb.usgs.gov/mapview/?center=-121.175,37.047&zoom=14

Parrish, John G, California Geological Survey, Earthquake Shaking potential for California, 2016 Website: https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_048.pdf

Greenhouse Gas Emissions

California Air Pollution Control Officers Association. (2008). *CEQA & Climate Change.* Sacramento.

California Department of Parks and Recreation. 2019. The Cool Parks Reponses. Website: https://www.parks.ca.gov/?page_id=26099. Accessed 2020.

California Air Resources Board (2019). GHG Emission Inventory (GHG EI) 2000-2017. Data and documentation is available on-line at: ttps://www.arb.ca.gov/cc/inventory/data/data.htm.

Hazards and Hazardous Materials

Fire and Resource Assessment. "FHSZ Viewer." *Egis.Fire.ca.Gov*, Cal Fire, egis.fire.ca.gov/FHSZ/. Accessed July 2020.

Hydrology and Water Quality

Longley, Karl, et al. *The Water Quality Control Plan (Basin Plan) For The California Regional Water Quality Control Board Central Valley Region Fifth Edition The Sacramento River Basin And The San Joaquin River Basin California Regional Water Quality Control Board Central Valley Region*. May 2018.

FEMA. "ArcGIS Web Application." *Hazards-Fema.Maps.Arcgis.Com*, FEMA, hazards fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9d

Land Use and Planning

California State Parks, Pacheco State Park General Plan and Environmental Impact Report, May 12, 2006

Merced County. 1990. Year 2000 General Plan. Merced, CA.

Mineral Resources

California State Parks, Pacheco State Park General Plan and Environmental Impact Report, May 12, 2006

Noise

Chapter 10 *Noise*, Merced County Planning Department, Merced County Year 2000 General Plan, December 1990.

Population and Housing

United States Census Bureau, Quick Facts Gustine city, California. Accessed July 10, 2021 https://www.census.gov/quickfacts/gustinecitycalifornia

United States Census Bureau, Quick Facts Merced County, California. Accessed July 10, 2021 https://www.census.gov/quickfacts/fact/table/mercedcitycalifornia,mercedcountycalifornia/INC11219

Public Services

California Department of Parks and Recreation. Pacheco State Park. Website: https://www.parks.ca.gov/?page_id=560. Accessed 10/28/2020

California Department of Forestry & fire protection, State Responsibility Area and Facilities map. Website: https://www.fire.ca.gov/media/2136/facilities_sra_map.pdf accessed March21, 2021

Recreation

California Department of Parks and Recreation. Pacheco State Park. Website: https://www.parks.ca.gov/?page_id=560. Accessed 2020

Transportation/Traffic

Merced County Association of Governments. 2018. Regional Transportation Plan Sustainable Communities Strategy for Merced County. Merced, CA.

Utilities and Service Systems

California State Parks, Pacheco State Park General Plan and Environmental Impact Report, May 12, 2006

Wildfire

Board of Forestry and Fire Protection (Calfire). State Responsibility Area Viewer. Website: https://bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer/. Accessed 2020.

Report Preparation

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

Northern Service Center
One Capitol Mall, Suite 500
Sacramento, CA 95814

Dionne Gruver ……..……..……..….Senior State Archeologist

Tod Hildebrandt…….…….…….…… State Archeologist

Brad Michalk…….……..……..…… Statewide CEQA Coordinator

Monica Aleman…….……Associate Parks & Recreation Specialist

Central Valley District, District Office
22708 Broadway St,
Columbia California

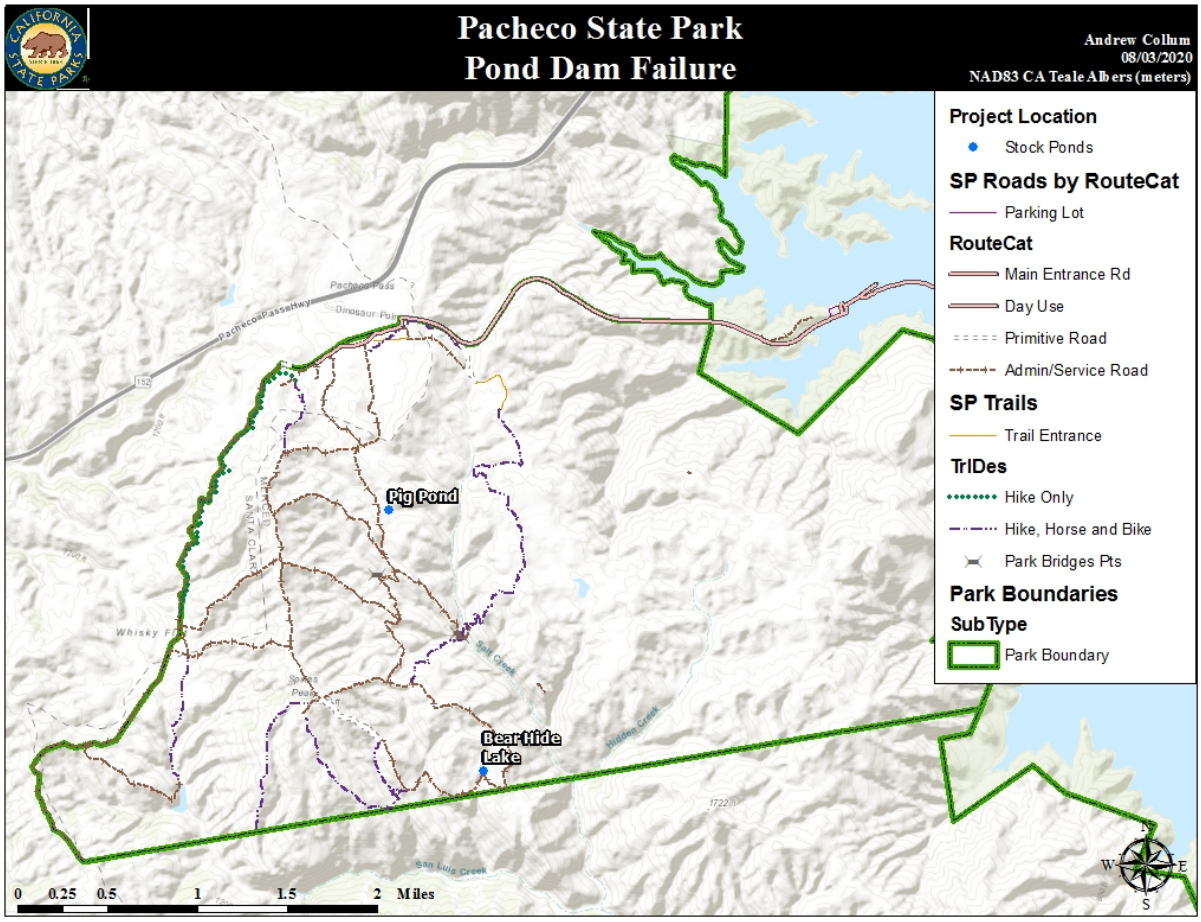
Heather Reith.....Senior Environmental Scientist

Andrew Collum.....Environmental Scientist

Nathanial Wigington.....…….… Environmental Scientist

APPENDIX A

MAPS, TABLES, AND CHARTS

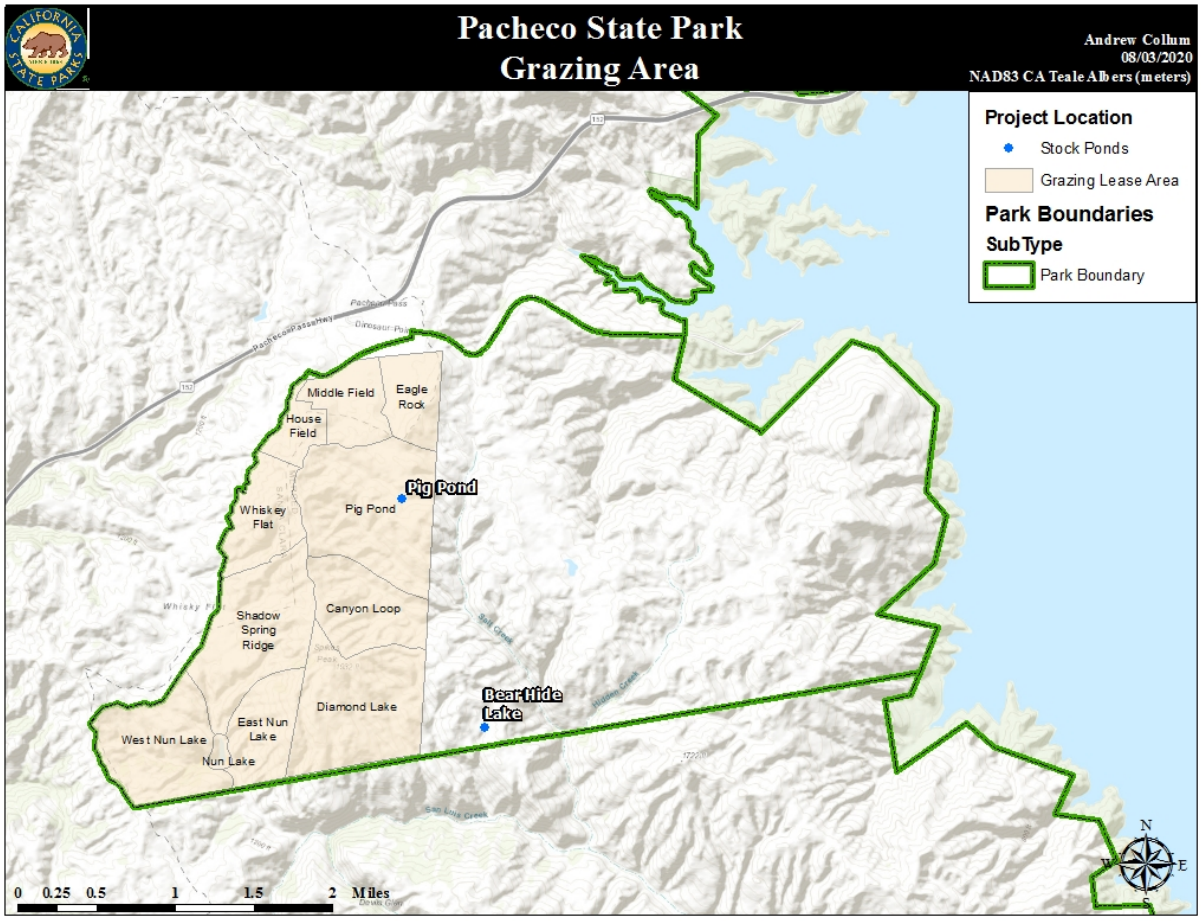


Calendar Year Attendance				
Year	Paid Day Use	Free Day Use	Camping	Total
2014	1148	1715	56	2919
2015	2453	1915	99	4476
2016	1984	849	78	2911
2017	2314	848	110	3272
2018	2360	611	76	3047
2019	2057	194	21	2272
Average	2053	1022	73	3150

Table 1

Pollutant	*State Designation*	*National Designation*
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	N/A
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing particles	Unclassified	N/A

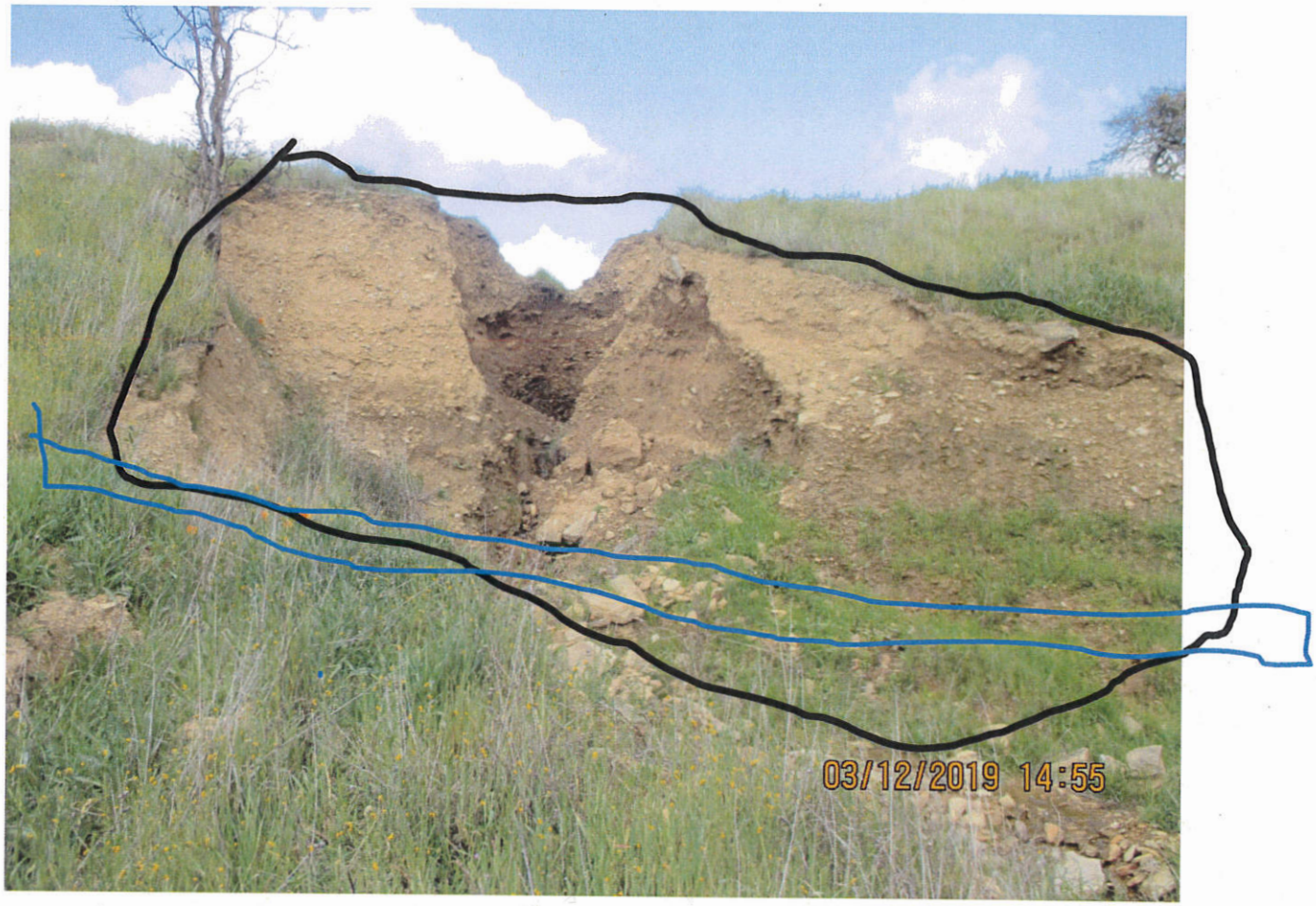
Equipment Type	ROG LBS./DAY	NOx LBS./DAY	CO LBS./DAY	SO2 LBS./DAY	PM10 LBS./DAY	PM2.5 LBS./DAY
Crawler Tractor	0.47	5.63	3.24	0.01	0.22	0.20
Off-Highway Trucks	0.33	3.18	1.92	0.01	0.12	0.11
Plate Compactors	0.02	0.09	0.08	0.00	0.00	0.00
Pumps	0.09	0.76	0.82	0.00	0.04	0.04
Excavator	1.79	21.31	12.13	0.03	2.44	0.93
Loaders/Backhoes	0.15	1.85	0.81	0.00	0.06	0.06
Total	2.85	32.82	19.00	0.05	2.89	1.34
SJVAPCD Significance	55	55	548	148	82	82
Exceed Significance	No	No	No	No	No	No


Pacheco State Park
Grazing Area
Andrew Collum
08/03/2020
NAD83 CA Teale Albers (meters)
Project Location
Stock Ponds
Grazing Lease Area
Park Boundaries
SubType
Park Boundary
Middle Field
Eagle Rock
House Field
Pig Pond
Pig Pond
Whiskey Flat
Shadow Spring Ridge
Canyon Loop
Diamond Lake
Bear Hide Lake
East Nun Lake
West Nun Lake
Nun Lake
0 0.25 0.5 1 1.5 2 Miles
N
W
E
S

APPENDIX B

PROJECT DESIGN GRAPHICS

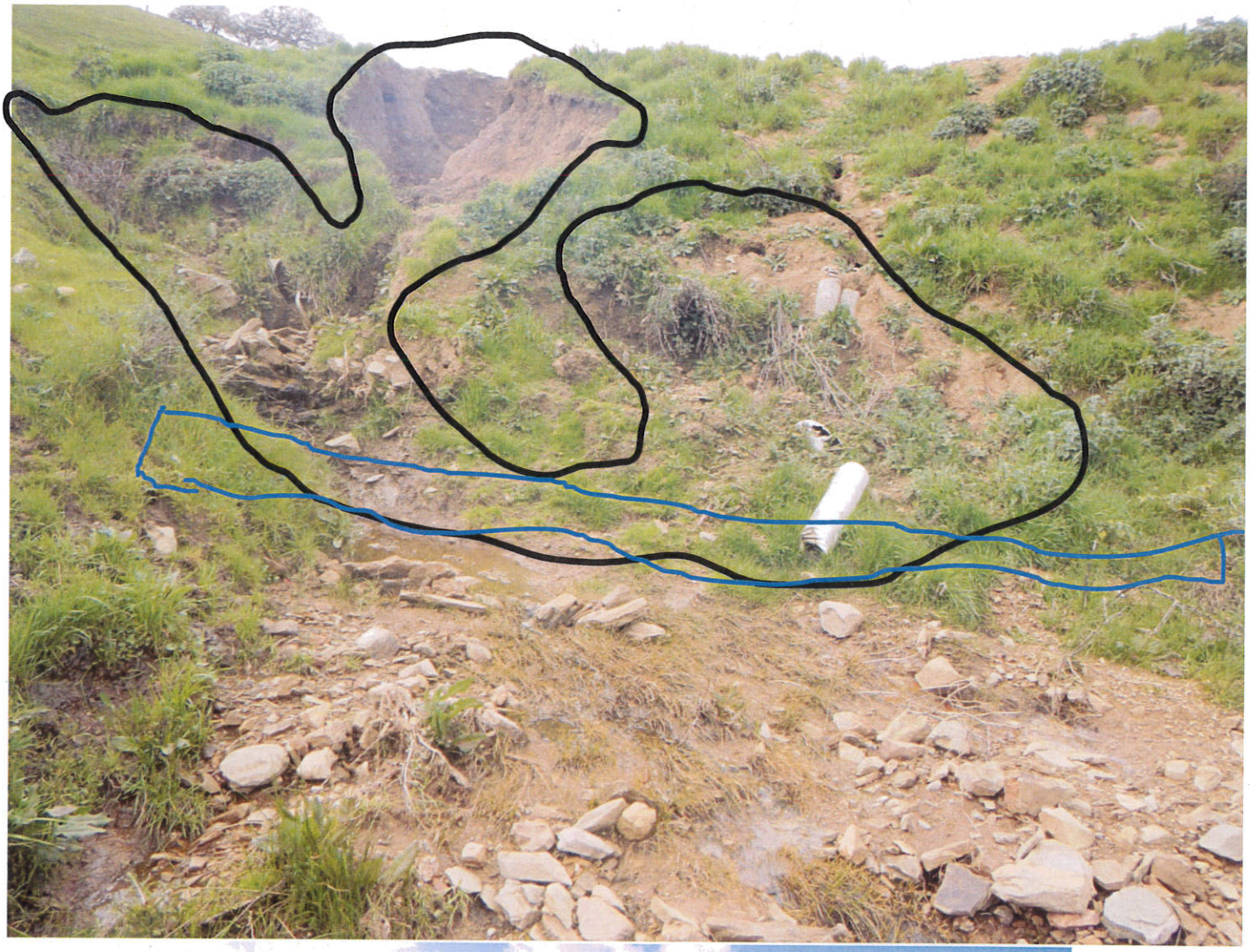
Attachment #1 Bear Hide Pond, area in black will be used as fill material to repair dam face up to 250 cubic yards, depth of removal not to exceed 5 feet deep. Spillway clean up and elevation lowering will involve removing up to 100 cubic yards. This material will be used first in the dam face repair. The spillway will be approx. 6 feet wide and lowered to keep lake level about where it's shown in these pictures.



Attachment #2 Fill area black highlighted up to 250 cubic yards dam, use top soil from spill to revegetate dam face,

Blue line is approx. location of 2 ft deep 5ft. wide 40 ft long dam base key per Geocon report.

Attachment #3 Pig Pond fill area approx. 70 yards and spillway way clean out approx. 6 yards highlighted, spillway material to be used in dam face. Blue box is approx. 2ft deep x 5ft wide 30ft long base key per Geocon report.



Attachment #4 Pig Pond dam top to be removed down up to approximately 5 feet in squirrel damage areas than refilled and compacted to fill in squirrel holes and hole in dam face. Removed material can be used to fill in dam face & material from hill can be used on dam top to help with dirt storage and handling. Any top soil to be used to reseed dam face.

Attachment #5 Pig Pond fill material source site pictures. Material to be remove will be up to 70 cubic yards in the area highlighted in black

Attachment # 6 Pig Pond bridge repair, approx. 7 yards of Natural Resource approve crush rock fill to cover exposed pipe and level out road way area highlighted in black. Below, culvert entrance way to be clean of material down to culvert pipe elevation and widen to help directed water into culvert removed material to placed on far side to help direct drainage to culvert. Work will be done in late fall when creek is dry

Attachment #7
Field notes for
fill & excavation

APPENDIX C
SENSITIVE SPECIES LIST

Pacheco State Park
CNDDB Species List

SciName	ComName	Taxon Group	FedList	CalList	GRank	SRank	Rplant Rank	OthrStatus	Habitats	GenHab	MicroHab
Ambystoma californiense	California tiger salamander	Amphibians	Threatened	Threatened	G2G3	S2S3		CDFW_WL-Watch List | IUCN_VU-Vulnerable	Cismontane woodland | Meadow & seep | Riparian woodland | Valley & foothill grassland | Vernal pool | Wetland	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered.	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.
Circus hudsonius	northern harrier	Birds	None	None	G5	S3		CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Coastal scrub | Great Basin grassland | Marsh & swamp | Riparian scrub | Valley & foothill grassland | Wetland	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.
Emys marmorata	western pond turtle	Reptiles	None	None	G3G4	S3		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	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.
Malacothamnus hallii	Hall's bush-mallow	Dicots	None	None	G2	S2	1B.2	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral | Coastal scrub | Ultramafic	Chaparral, coastal scrub.	Some populations on serpentine. 10-735 m.
Rana draytonii	California red-legged frog	Amphibians	Threatened	None	G2G3	S2S3		CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Aquatic | Artificial flowing waters | Artificial standing waters | Freshwater marsh | Marsh & swamp | Riparian forest | Riparian scrub | Riparian woodland | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	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.
Taxidea taxus	American badger	Mammals	None	None	G5	S3		CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog & fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie | Coastal scrub | Desert dunes | Desert wash | Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | Ione formation | Joshua tree woodland | Limestone | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Mojavean desert scrub | Montane dwarf scrub | North coast coniferous forest | Oldgrowth | Pavement plain | Redwood | Riparian forest | Riparian scrub | Riparian woodland | Salt marsh | Sonoran desert scrub | Sonoran thorn woodland | Ultramafic | Upper montane coniferous forest | Upper Sonoran scrub | Valley & foothill grassland	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.

APPENDIX D

ACRONYMS

AO – Administrative and Operation Zone
APCD - Air Pollution Control District
ARB - Air Resources Board
AMM – Avoidance and Mitigation Measures
APE – Area of Potential Effect
APEFZ – Alquist- Priolo Earthquake Fault Zone
BC – Back Country
BMP – Best Management Practice
CAAQS - California Ambient Air Quality Standards
CalFire – CA Dept. of Forestry and Fire Protection
CARB – California Air Resources Board
CL – Lean Clay
CCR – California Code of Regulations
CEQA - California Environmental Quality Act
CDC – California Department of Conservation
CDFW – California Department of Fish and Wildlife
CGS – California Geological Survey
CRLF – California Red Legged Frog
CRWQCB – Central Regional Water Quality Control Board
CTS – California Tiger Salamander
dB -Decibels
DTSC – Department of Toxic Substance Control
DPR - California Department of Parks and Recreation
CVRWQCB - Central Valley Regional Water Quality Control Board
DSOD – California Division of Safety of Dams
DTSC - Department of Toxic Substances Control
EIR – Environmental Impact Report
EPA – Environmental Protection Agency
FC – Front Country Zone
FEMA – Federal Emergency Management Agency
FIRM - FEMA publishes Flood Insurance Rate Maps
FMMP – Farmland Mapping and Monitoring Program
GHGs - Greenhouse Gases
GC – Gravel Sand
HCP – Hazard Conservation Plan
IS/MND - Initial Study/Mitigated Negative Declaration
ITP – Incidental take Permit
LE – Leased Zone
MCAG – Merced Country Association Government
MCFD – Merced County Fire Department
MW – Megawatts
NAAQS - National Ambient Air Quality Standards
NAHC – Native American Heritage Commission
NCCP – Natural Community Conservation Plan
NWS – National Weather Service
PCAPCD - Placer County Air Pollution Control District
PM2.5 – Fine Particulate Matter
PM10 – Suspended Particulate Matter
PRC – Public Resources Code
PSR - Project Specific Requirements
PSP – Pacheco State Park
RTPA -Regional Transportation Planning Agency
RWQCBs - Regional Water Quality Control Boards
SMARA – Surface Mining and Reclamation Act
SJVAPCD - San Joaquin Valley Air Pollution Control District
SAA – Streambed Alteration Agreement
SPRP - Spill Prevention and Response Plan
SRA - State Recreation Areas
SWPPP – Stormwater Pollution Prevention Plan
VMT – Vehicle Miles Travelled
WPECP – Water Pollution and Erosion Control Plan
USGS – U.S. Geological Survey