

DRAFT INITIAL STUDY

PHOENIX HYDROELECTRIC PROJECT



STATE WATER RESOURCES CONTROL BOARD



June 2022

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PREPARED FOR:

STATE WATER RESOURCES CONTROL BOARD



PREPARED BY:

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June 2022

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ENVIRONMENTAL CHECKLIST FORM

1. Project title:

Phoenix Hydroelectric Project

2. Lead agency name and address:

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

3. Contact person and phone number:

Eric Bradbury (916) 327-8628

Project location:

South Fork Stanislaus River Tuolumne County, CA, approximately 10 miles
northeast of Sonora, CA

4. Project sponsor's name and address:

Susan Kester
Pacific Gas and Electric Company
245 Market Street
San Francisco, CA 94105

5. General plan designation:

The Phoenix Project area has the following land use designations: timber
production, open space, parks and recreation, agriculture, public, low density,
residential, and rural residential.

6. Zoning:

Area around the header box: Parcel zoning AE-37 Exclusive Agricultural District
(37 acre minimum), Public, A-10 General Agricultural District (10 acres
minimum), RE-5 Residential Estate (five acre minimum).

Area around powerhouse: Parcel zoning P Public district, AE-37, O-1 Open
Space-1 District, RE-1:MX Residential Estate (one acre minimum): Mobile Home
Exclusion District, RE-2:MX, RE-5:MX, A-10.

Around Lyons reservoir and dam: Parcel Zoning K General Recreational District, O Open Space District, P Public District.

7. Description of project:

The Phoenix Hydroelectric Project (Phoenix Project) is an existing hydroelectric project owned and operated by the Pacific Gas and Electric Company (PG&E or Licensee) and regulated by the Federal Energy Regulatory Commission (FERC) in Tuolumne County, CA. The Phoenix Project is operated for power generation and to meet the water supply needs of the Tuolumne Water System, which is a water supply system owned by the Tuolumne Utilities District (TUD). The Phoenix Project has a capacity of 2.0 megawatts (MW). Its licensed, authorized installed capacity is 1.6 MW. PG&E is relicensing the Phoenix Project with FERC. PG&E submitted the Final License Application (FLA) to FERC on August 24, 2020. PG&E submitted a request for water quality certification associated with its FLA with the California State Water Resources Control Board (State Water Board) on August 26, 2021.

The Proposed Project includes PG&E's recommendations for continued operation and maintenance of the Phoenix Project as described in the FLA. PG&E is proposing to continue operation and maintenance activities similar to the existing license with a few exceptions. No new facilities or substantial modifications to existing facilities are being proposed at this time. Changes or modifications to the existing Phoenix Project include modification to the existing FERC Project Boundary, recreational facility enhancements, maintenance plans, and implementation of operation measures related to water year types, minimum instream flows, and ramping rates. PG&E has developed or is developing resource management plans and measures for the protection of aquatic resources, terrestrial resources, land and aesthetic resources, recreation resources, and cultural resources.

8. Surrounding land uses and setting:

The Phoenix Project is located in a forested area in the foothills of the western slope of the Sierra Nevada. The Phoenix Project consists of Lyons Dam and Reservoir on the South Fork Stanislaus River (SFSR), a cushion dam approximately 80 feet downstream of Lyons Dam, the Main Tuolumne Canal (MTC), the Phoenix Header Box (Forebay), Phoenix powerhouse, and a penstock. The Phoenix powerhouse is located at the upper end of the Tuolumne Water System. The Phoenix Project also includes two recreation areas: the

Lyons Reservoir Day Use Area and the MTC Section 4 Ditch Fishing Access area.

Most Project facilities are on land owned by PG&E, Sierra Pacific Industries, and other private property owners. The Phoenix Project occupies a small parcel of National Forest System (NFS) land managed by the Stanislaus National Forest (SNF) near the upper end of Lyons Reservoir. Approximately 3.5 miles of the MTC and approximately 0.54 miles of Project roads intersect NFS land managed by the SNF.

9. Other public agencies whose approval is required:

The Project may require approvals from Tuolumne County, the United States (U.S.) Forest Service (USFS), the Bureau of Land Management (BLM), FERC, U.S. Army Corps of Engineers (USACE), State Water Board, or the California Department of Fish and Wildlife (CDFW).

10. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1?

The following Tribes have been contacted with regard to the Proposed Project:

- Chicken Ranch Rancheria of Me-Wuk Indians of California
- The Tuolumne-Band of Me-Wuk Indians
- The Calaveras Band

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

DEFINITIONS

TERMINOLOGY DEFINITIONS: The following terminology is used in this environmental analysis to describe the level of significance of potential impacts to each resource area:

- **Potentially Significant Impact.** This term applies to adverse environmental consequences that have the potential to be significant according to the threshold criteria identified for the resource, even after mitigation strategies are applied, and/or an adverse effect that could be significant and for which no mitigation has been identified. If any potentially significant impacts are identified, an Environmental Impact Report must be prepared consistent with the California Environmental Quality Act (CEQA).
- **Less-than-Significant Impact with Mitigation.** This term applies to adverse environmental consequences that have the potential to be significant but can be reduced to less-than-significant levels through the application of identified mitigation strategies that have not already been incorporated into the Proposed Project.
- **Less-than-Significant Impact.** This term applies to potentially adverse environmental consequences that do not meet the significance threshold criteria for that resource and for which, therefore, no mitigation measures are required.
- **No Impact.** This term means no adverse environmental consequences have been identified for the resource or the consequences are negligible or undetectable and, therefore, no mitigation measures are required.
- **Phoenix Hydroelectric Project (Phoenix Project).** This term refers to the existing hydroelectric Project and all of its associated facilities, operations and maintenance activities as authorized under the current license.
- **Proposed Project.** This term refers to the continued operation and the modifications, enhancements and alterations as proposed by the licensee (PG&E) under the relicensing of the Phoenix Hydroelectric Project as described in the FLA.
- **Mitigation.** This term refers to specific measures which may substantially lessen or avoid the significant adverse effects of the process of the Project on a physical environment, these may include repairing, rehabilitation, or restoring impacted environmental resource(s); reducing or eliminating the impact over time; and/or compensating for the impact (AEP 2020a).

▪ **Cumulative Impact.** A condition under which two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (AEP 2020b).

ACRONYMS

ADA	Americans with Disabilities Act of 1990
APE	Area of Potential Effects
ARP	Aquatic Resources Plan
BLM	U.S. Bureau of Land Management
BMP	best management practices
CALFIRE	California Department of Forestry and Fire
CAP	Climate Action Plan
CARB	California Air Resources Board
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulation
cfs	cubic feet per second
CHP	California Highway Patrol
CRMP	Cultural Resources Management Plan
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
Day Use Area	Lyons Reservoir Day Use Area
DPA	Direct Protection Area
EAP	Emergency Action Plan

EIR	Environmental Impact Report
EOS	End-of-Spill
EOS Plan	End of Spill Ramping Rate Plan
EPA	Environmental Protection Agency
F	Fahrenheit
FMMP	Farmland Mapping and Monitoring Program
FERC	Federal Energy Regulatory Commission
Fire Plan	Fire Prevention and Response Plan
FLA	Final License Application
FMMP	Farmland Mapping and Monitoring Program
FSM	U.S. Forest Service Manual
FYLF	Foothill yellow-legged frog
Gaging Plan	Streamflow and Reservoir Level Gaging Plan
General Plan	Tuolumne County General Plan
GHG	greenhouse gases
Hazards Plan	Hazardous Materials Management Plan
HMBP	Hazardous Materials Business Plan
HPMP	Historic Properties Management Plan
IS	Initial Study
lbs.	pounds
Licensee	Pacific Gas & Electric Company
LOP	Limited Operating Period
MBTA	Migratory Bird Treaty Act

MIF	minimum instream flow
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
MPZ	Mineral Preserve
msl	mean sea level
MRZ	mineral resource zones
MTC	Main Tuolumne Canal
MW	megawatt
NFS	National Forest Service
NHPA	National Historic Preservation act
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAD	Pre-Application Document
PCB	polychlorinated biphenyls
PG&E	Pacific Gas and Electric
PRC	Public Resources Code
PRTP	Project Roads and Trails Plan
Proposed Project	Proposed modifications and changes to the Phoenix Hydroelectric Project
Phoenix Project	Existing Phoenix Hydroelectric Project
RBMP	Redeye Bass Management Plan

Recreation Plan	Recreation Management Plan
RPM	Resource protection measures
RPS	Renewable Portfolio Standard
SCADA	Supervisory Control and Data Acquisition
SFSR	South Fork Stanislaus River
SHPO	State Historic Preservation Officer
SNF	Stanislaus National Forest
SPCC	Spill Prevention, Control, and Countermeasures
SRA	State Responsibility Area
State Water Board	California State Water Resources Control Board
TCAPCD	Tuolumne County Air Pollution Control District
TCSO	Tuolumne County Sheriff's Office
TCT	Tuolumne County Transit
TUD	Tuolumne Utilities District
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forestry Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
Vegetation Plan	Vegetation and Integrated Pest Management Plan
Wildlife Plan	Wildlife Resources Plan
WPT	western pond turtle
WY	water year

1.0 INTRODUCTION

This Initial Study (IS) reflects an environmental analysis required by the California Environmental Quality Act (CEQA) regulations (Pub. Resources Code §21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14, §15000 et seq.) for the California State Water Resources Control Board's (State Water Board) issuance of water quality certification for the relicensing of the Federal Energy Regulatory Commission (FERC) Project No. P-1061 Phoenix Hydroelectric Project (Phoenix Project) as proposed by Pacific Gas and Electric (PG&E) in their Final License Application (FLA) (Proposed Project) filed with FERC on August 24, 2020, and per their subsequent request to the State Water Board for Clean Water Act (CWA) Section 401 Water Quality Certification filed August 26, 2021.

CEQA requires that public agencies analyze and acknowledge the environmental consequences of their actions and consider alternatives and mitigation measures that could avoid or reduce significant potential adverse impacts to the environment when avoidance or reduction is feasible.

As part of the State Water Board's discretionary permit review process, the Proposed Project is required to undergo an initial environmental review pursuant to Section 15063 of the CEQA Guidelines. This IS report is a preliminary analysis prepared by the State Water Board, acting in its capacity as the CEQA Lead Agency, to determine the level of environmental review and scope of analysis that would be required for the Proposed Project.

1.1 Intent and Scope of this Document

This IS report is an informational document that provides the State Water Board, other public agencies, interested parties, and the public at-large with an objective assessment of the potential environmental impacts that could result from implementation of the Proposed Project.

The scope of analysis reflects a project-level evaluation of the Proposed Project, and includes descriptions of the environmental setting, existing conditions, potential environmental impacts, and mitigation measures that may be implemented to avoid, reduce, or mitigate potentially significant impacts.

1.2 Public Review Process

The CEQA compliance process provides an opportunity for agencies, other stakeholders, and the general public to comment on a proposed project's potential environmental effects. CEQA requires public disclosure of information about the Proposed Project and seeks to foster public participation and informed decision making.

All comments received during the public comment period would be considered by the State Water Board during preparation of the final IS report.

1.3 Organization of this Document

This IS report is organized into the following sections:

- **Section 1 – *Introduction*:** Provides a brief description of the intent and scope of this IS, the public and agency involvement process under CEQA, and the organization of and terminology used in this IS.
- **Section 2 – *Project Description and Setting*:** Describes the Proposed Project ownership, location, facilities, and background. It also describes the Proposed Actions to be undertaken as part of the Proposed Project and relevant proposed environmental mitigation measures and plans.
- **Section 3 – *Environmental Factors Analysis*:** This section includes an environmental setting description for each resource topic and identifies the Proposed Project's anticipated environmental impacts, as well as any mitigation measures that would be required to reduce potentially significant impacts to a less-than-significant level. Also included are the environmental checklists used to assess the Proposed Project's potential environmental effects, which are based on the model provided in Appendix G of the CEQA Guidelines.
- **Section 4 – *Mandatory Findings of Significance*:** Provides an overview of the environmental effects of the Proposed Project as a whole, based on the descriptions provided for in Section 3.
- **Section 5 – *References*:** Lists all cited sources used in the development of this IS report.
- **Section 6 – *List of Preparers*:** This section lists all authors who contributed to development of this IS report.

2.0 PROJECT DESCRIPTION AND SETTING

The Phoenix Project is an existing hydroelectric facility owned and operated by PG&E, located in the foothills of the western slope of the Sierra Nevada on the Stanislaus River in Tuolumne County, California (Figure 2-1). The hydropower facility has a capacity of 2.0- megawatts (MW) with a licensed authorized installed capacity of 1.6 MW. The Phoenix Project was first licensed by FERC in 1930, and the current license was issued in 1992.

The existing Phoenix Project and the Proposed Project facilities consist of the Lyons Dam and Reservoir on the South Fork Stanislaus River (SFSR), a cushion dam approximately 80-feet downstream of Lyons Dam, the Main Tuolumne Canal (MTC), the Phoenix Header Box (Forebay), Phoenix Powerhouse, and a penstock (Figure 2-1). The Phoenix Powerhouse is located at the upper end of the Tuolumne Water System, a domestic water supply system owned by Tuolumne Utilities District (TUD). Water is delivered from the Phoenix Project to TUD at multiple locations along the MTC and downstream of the Phoenix Powerhouse, which drains into the PG&E Phoenix Reservoir.

The Phoenix Project is operated by PG&E for power generation and distribution of electricity to the local grid and to meet the water needs of TUD. PG&E is not currently proposing to add capacity or make any major modifications to the existing facility or its operations.

The total drainage area of the SFSR upstream of Lyons Dam is 67.2 square miles. The total Stanislaus River watershed, including the South, Middle, and North forks, encompass 997.8 square miles. The SFSR downstream of Lyons Dam flows from an elevation of approximately 4,200-feet above mean sea level (msl) at the dam to approximately 1,110-feet msl at New Melones Reservoir. The drainage is narrow and in rugged terrain with few access roads. Scattered riparian vegetation occurs along the river, with chaparral and oak woodland on the hillslopes, transitioning to conifer forest at higher elevations.

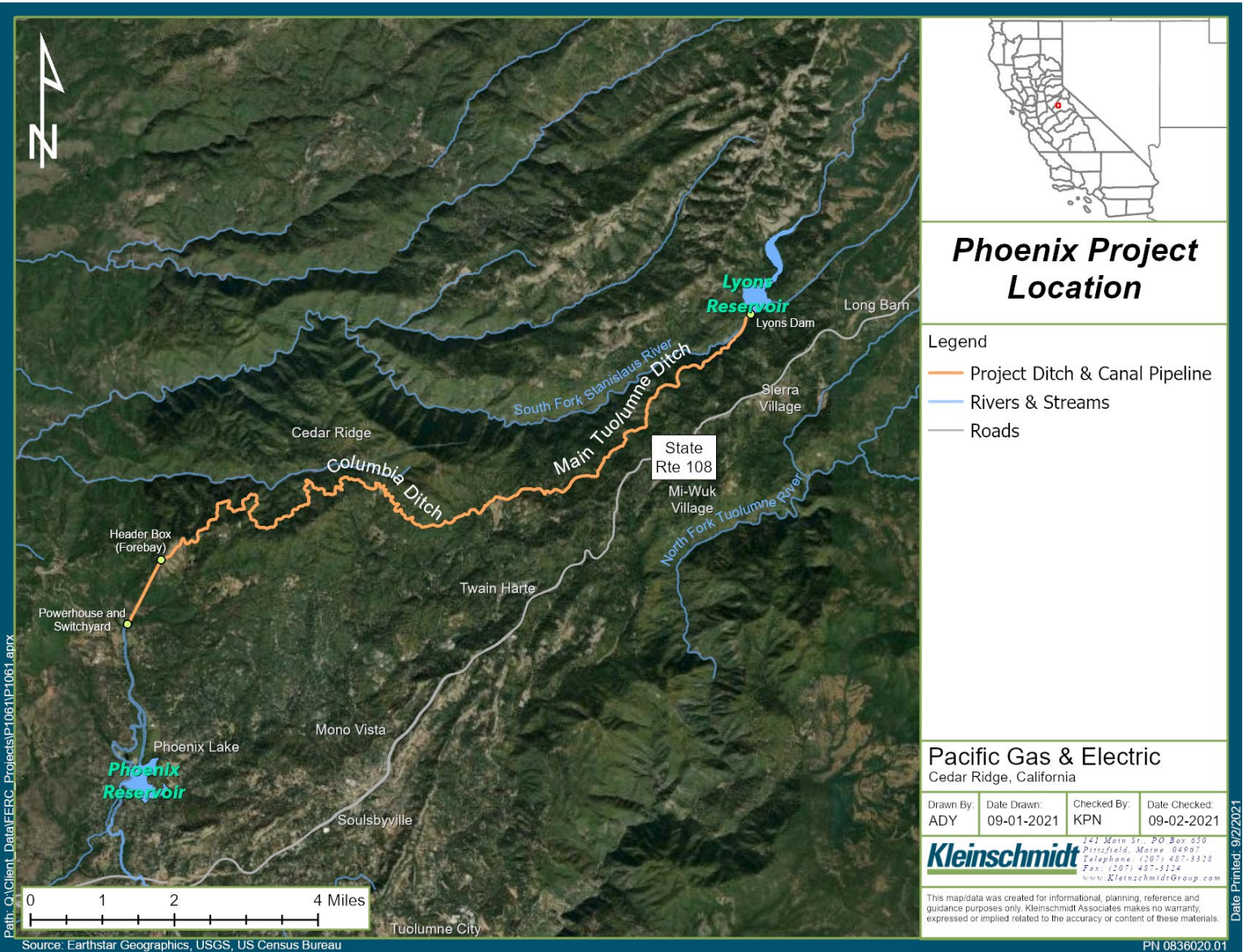


Figure 2-1 Location of Phoenix Project

2.1 Proposed Project Background

The MTC was built in 1851 and 1852, to support mining and irrigation needs, and the original Phoenix Powerhouse was constructed in 1898. Lyons Dam was constructed in 1929 and 1930. In 1940, the original powerhouse was removed, and the current powerhouse was constructed by PG&E (PG&E 2022a).

The Phoenix Project was first licensed in 1930. PG&E is currently operating the Phoenix Project under an existing 30-year license issued by FERC in 1992 which expires in August 2022. PG&E filed the Notice of Intent (NOI) and Pre-Application Document (PAD) with FERC to initiate the relicensing process in 2017; on August 24, 2020, PG&E filed the FLA for the Phoenix Project with FERC (PG&E 2022a).

2.2 Proposed Project

This IS report evaluates the potential environmental impacts of continued operations and relicensing on a 30- to 50- year term of a new license for the Phoenix Project. For purposes of this CEQA analysis, the Proposed Project being considered by the State Water Board is issuance of a water quality certification, pursuant to Section 401 of the federal CWA, for the relicensing of the Phoenix Project, with appropriate conditions to ensure that the Phoenix Project is operated in a manner that is protective of water quality and the designated beneficial uses of water. The Proposed Project includes:

- PG&E's recommendations for continued operation and maintenance of the Phoenix Hydroelectric Project as described in the FLA and supplemental filings (PG&E 2020a)
- (b) conditions proposed by U.S. Forestry Service (USFS) pursuant to Section 4(e) of the Federal Power Act
- (c) FERC's Staff Alternatives
- (d) conditions of the water quality certification necessary to protect water quality

Under the Proposed Project, PG&E would maintain the operation and maintenance activities of the existing license, with a few exceptions described below. No new facilities or substantial modification of existing facilities are proposed at this time. PG&E's proposed changes or modifications to the existing Phoenix Project, as part of the Proposed Project, are identified in Section 2.2.1-*Modification to the Existing FERC Project Boundary* to Section 2.2.4-*Proposed Project Operations*.

2.2.1 Modification to the Existing FERC Project Boundary

Proposed changes to the existing FERC Project Boundary of the Phoenix Project include the following:

- Include all lands necessary for the operation and maintenance of the Proposed Project
- Remove lands no longer necessary for operation and maintenance of the Proposed Project
- Correct known errors

2.2.2 Proposed Project Recreational Facility Enhancement at the Lyons Reservoir Day Use Area and MTC Section 4 Ditch Fishing Access Parking

Proposed recreational facility enhancements include:

Enhance Reservoir Day Use Area. Proposed enhancements to the recreation area are intended to meet current Americans with Disability Act (ADA) accessibility standards. Proposed activities to meet these standards include developing an additional accessible picnic site as well as improvements to the restroom landing, water faucet, trash disposal, and designated parking area. An overflow parking area for high-use days would also be created (Figure 2.2.2-1).

Section 4 Ditch Parking Access. Proposed improvements to meet current accessibility standards include providing ADA-compliant parking, developing accessible fishing access along the MTC, and constructing a level concrete landing area adjacent to the fencing and an accessible route from the new parking stall to the level concrete landing area (Figure 2.2.2-2).



Figure 2.2.2-1 Existing Day Use Area



Figure 2.2.2-2 Section 4 Ditch Existing Parking Area

2.2.3 Maintenance Modifications

The Proposed Project involves changes or modifications to the existing maintenance activities as follows:

Project road and trail maintenance. Regular inspection of Proposed Project roads and trails would be conducted by Licensee personnel to identify potential issues and maintenance needs. Non-routine heavy maintenance, including ground disturbing activities, would be conducted in consultation with the USFS, Bureau of Land Management (BLM), or Tuolumne County as appropriate.

Vegetation maintenance. Vegetation maintenance reduces fire hazards, controls invasive weeds, allows visual inspection of the Proposed Project, maintains safe access to Proposed Project facilities, and protects health and safety. The Proposed Project includes measures to minimize potential effects of maintenance activity on special status species by implementing limited operating periods (LOP) and establishing avoidance buffers for routine and non-routine vegetation removal activities.

Invasive weed and special status plant management. The Proposed Project includes management plans for long-term control of target invasive weeds and measures to minimize potential introduction and spread of invasive weeds during Proposed Project operation and maintenance activities. Activities conducted under these management plans would avoid disturbance to special-status plants, minimize potential impacts to wildlife from herbicides, and meet consultation requirements with the USFS and BLM.

Rodent management. The Proposed Project includes a Vegetation and Integrated Pest Management Plan (Vegetation Plan) with rodent control measures, including use of rodenticides, to obviate health concerns for humans and damage to Proposed Project facilities from rodent activity. Measures are included to protect wildlife during the implementation of rodenticide at the Phoenix Powerhouse and Switchyard, or other locations where an infestation occurs.

Construction and non-routine maintenance. The Proposed Project includes a Wildlife Resources Plan (Wildlife Plan) with LOPs and avoidance buffers to be established during specified construction and non-routine operation and maintenance activities to protect nesting birds protected under the Migratory Bird Treaty Act (MBTA) including northern goshawk (*Accipiter gentilis*), California spotted owl (*Strix occidentalis occidentalis*), bald eagle (*Haliaeetus leucocephalus*), and special-status bats.

Large wood management. The Proposed Project includes removal of large wood in Lyons Reservoir at the log boom (annually) and shoreline (every five years) to prevent

debris build up and protect infrastructure. The Wildlife Plan includes measures to protect bald eagles and other wildlife during these activities.

2.2.4 Proposed Project Operations

Water Year Types. Under the Proposed Project, the Water Year (WY) types would be modified to include Critically Dry, Dry, Normal Dry, Normal Wet and Wet WYs. New WY types would be based on the New Melones Reservoir inflow as reported in the California Department of Water Resources' (CDWR) Bulletin 120 from February through May, with the May WY designation persisting until the following February of each year.

Minimum Instream Flows. Under the Proposed Project, monthly minimum instream flows (MIF) would be maintained or increased based on the proposed WY types.

Ramping Rates. Under the Proposed Project, PG&E would implement an End-of-Spill (EOS) ramping rate dependent upon the EOS date, supporting a slower ramp down from spill in the SFSR downstream of Lyons Dam. This would result in reduced recession rates at the EOS. PG&E proposes to ramp down flows at EOS after May 1 (PG&E 2021b), in accordance with an End-of-Spill Ramping Rate Plan (EOS Plan) that would be developed through negotiations between PG&E and the agencies. The EOS Plan is to be developed within two years of license issuance in consultation with the USFS, U.S Fish and Wildlife Service (USFWS), CDFW, State Water Board staff, and other interested stakeholders.

2.2.5 Proposed Environmental Measures and Management Plans

As part of the Proposed Project, PG&E has developed or intends to develop resource management plans to be implemented once the license is issued. The intent of these plans and measures is to assist PG&E in meeting agency management goals and objectives for specific resources that have the potential to be impacted by implementation of the Proposed Project. Table 2.2.5-1 lists those plans and measures, the resources they are associated with, and if they are Proposed, Modified, or Existing. Plans listed as Proposed have been developed as part of the current relicensing effort and have been filed with FERC as part of the FLA; those identified as Modified were originally developed as part of the current license and have been updated or revised to be implemented as part of the new license; those identified as Existing are currently in place under the Phoenix Project and would continue to be implemented under the Proposed Project. Summaries of each management plan are provided in the text that follows the table. For the purposes of this CEQA analysis, these plans and measures are considered to be part of the Proposed Project.

Table 2.2.5-1 Management Plans and Measures Developed for the Proposed Project

CEQA Environmental Resource Area	Plan or Measure Name	Plan or Measure Status
Biological Resources, Hydrology and Water Quality	Water Year Type Measure	Modified
Biological Resources, Hydrology and Water Quality	Minimum Instream Flow Measure	Modified
Biological Resources, Hydrology and Water Quality	End of Spill Ramping Plan	Proposed*
Biological Resources, Hydrology and Water Quality	Aquatic Resource Plan	Proposed
Biological Resources, Hydrology and Water Quality	Ramping Rate Measure	Modified
Biological Resources, Hydrology and Water Quality, Geology and Soils	Main Tuolumne Canal Spill Channel Measure	Proposed
Biological Resources, Hydrology and Water Quality, Geology and Soils	Spill Channel Erosion Evaluation and Mitigation Plan	Proposed*
Biological Resources, Hydrology and Water Quality	Streamflow and Reservoir Level Gaging Plan	Proposed
Biological Resources	Vegetation and Integrated Pest Management Plan	Proposed
Biological Resources	Wildlife Resources Plan	Proposed

CEQA Environmental Resource Area	Plan or Measure Name	Plan or Measure Status
Biological Resources, Hydrology and Water Quality, Land Use and Planning, Geology and Soils	Erosion Plan	Proposed
Hazards and Hazardous Materials	Hazardous Materials Management Plan	Proposed
Wildfire	Fire Prevention and Response Plan	Proposed
Recreation, Geology and Soils, Land Use and Planning	Project Roads and Trails Plan	Proposed
Recreation	Recreation Management Plan	Proposed
Cultural Resources, Tribal and Cultural Resources	Historic Properties Management Plan	Proposed
Tribal and Cultural Resources	Cultural Resources Management Plan	Modified
All	Annual Consultation with the Forest Service and BLM	Modified
All	Annual Employee Awareness Training	Existing

*Plans marked with an asterisk have not yet been filed with FERC, or have not yet been finalized due to ongoing negotiations with stakeholders.

Biological Resources Plans included as part of the Proposed Project

Vegetation and Integrated Pest Management Plan

The Vegetation Plan was prepared for the Proposed Project and describes PG&E's responsibilities related to the management of invasive weeds, and vegetation and fuels, and the protection of environmental and cultural resources during these activities over the license term. The Vegetation Plan describes monitoring for special-status plants

and invasive weeds to support management decisions over the license term. The objectives of the Vegetation Plan are to:

- Implement specific vegetation management actions to ensure the safe and effective operation of the Proposed Project by reducing fire hazards (fuel reduction); controlling the spread of invasive weeds; providing means for visual inspection of the Proposed Project; maintaining safe access to the Proposed Project facilities, Proposed Project features, and Proposed Project recreation facilities/features; and protecting worker and public health and safety.
- Implement rodent control as needed in facility interiors or around facilities where rodents can cause a health concern to humans or damage the integrity of a structure.
- Implement measures to minimize the potential for spread or introduction of target invasive weeds during routine and non-routine operation and maintenance and construction activities.
- Identify the location of special-status plants potentially affected by Proposed Project operations, maintenance, and construction, and provide avoidance and protection measures for the plants during these activities, if found.

Pending FERC approval, the Vegetation Plan would be implemented the first full calendar year after the new license becomes effective (PG&E 2022b).

Wildlife Resources Plan

The Wildlife Plan was developed for the Proposed Project and describes PG&E's responsibilities related to the protection of wildlife, including special-status species and nesting birds protected under the Migratory Bird Treaty Act (MBTA). The Wildlife Plan provides for monitoring of all wildlife mortality around the MTC and Proposed Project switchyard. The Wildlife Plan includes measures for the protection of:

- Northern goshawk and California spotted owl
- Bald eagle
- Special-status bats
- Potential wildlife drowning in the MTC and electrocution at the Proposed Project switchyard

Pending FERC approval, the Wildlife Plan would implemented the first full calendar year after the new license becomes effective (PG&E 2021b).

Hydrology and Water Resources Plans for the Proposed Project

End of Spill Ramping Rate Plan and Standard Ramping Rate Measure

PG&E and stakeholders separated the Ramping Rate Measure filed with the Supplemental FLA Filing (February 2021) into a Standard Ramping Rate Measure and an EOS Plan) consistent with the USFS's Draft Preliminary 4(e) Conditions 30 and 31, respectively. The Standard Ramping Rate Measure addresses ramping rates when the Proposed Project is in control of flows downstream, except at end of spill following runoff each year. Consensus was reached by PG&E and stakeholders on this measure; PG&E, with consensus from stakeholders, also modified the Minimum Instream Flow Measure for consistency with the Standard Ramping Rate Measure. PG&E is continuing to consult with agencies and stakeholders to finalize the EOS Plan. A draft EOS Plan was filed with FERC in March 2022, reflecting PG&E's proposed ramping schedule¹.

The current goals of the EOS Plan are:

- Implement the EOS ramping over the term of the Proposed Project license
- Conduct an operational assessment of implementation procedures and effects to stream flow and stage downstream of Lyons Dam during the first three years following license issuance (or three years following any modifications of infrastructure necessary to implement the ramping rate)
- Conduct a review, once every five years after the assessment period
- Evaluate the need to modify EOS ramping rates, schedules, or other elements of the EOS Plan to address changes in water supply needs,

¹ PG&E and stakeholders have yet reached a consensus on a specific ramping schedule. There is general agreement on the form of the schedule with up to three ramping schedules and two trigger dates. The proposed schedule included in this IS report reflects PG&E's proposal from the February 2021, Supplemental filing. PG&E and stakeholders continue to seek a consensus on a final ramping schedule (PG&E 2022b).

protection of aquatic resources, and/or other beneficial uses over the term of the license

- PG&E and participating stakeholders are continuing to negotiate the final terms of the EOS Plan (PGE&E 2022b).

Aquatic Resources Plan

The Aquatic Resources Plan (ARP) describes PG&E's responsibilities related to the management of aquatic resources over the course of the license term. The resource agencies referenced in the ARP plan include the USFS, CDFW, USFWS, BLM, and the State Water Board. The ARP includes measures for the protection of fish, Foothill yellow-legged frogs (FYLFs) (*Rana boylei*), and water temperature. The objectives of the ARP are to:

- Monitor the fish community that currently exists in the SFSR bypass reach to observe any long-term trends in this fish community. Periodic monitoring in the SFSR bypass reach would be used to assess trends (if any) in the fish community over the term of the new license in response to any changes in operation
- Determine the presence and population status of FYLF within the Proposed Project area and selected nearby tributaries
- Gather water temperature data over a wider variety of water conditions than were present during relicensing studies and to inform conservation and monitoring efforts for fish and FYLFs

Pending FERC approval, the ARP would be implemented in the first full calendar year after the new license becomes effective (PG&E 2022b).

Streamflow and Reservoir Level Gaging Plan

The Streamflow and Reservoir Level Gaging Plan (Gaging Plan) was developed for the Proposed Project to identify and describe the Proposed Project gages and define the approach for documenting compliance with streamflow requirements under the new FERC license. PG&E owns and operates two gages:

- S-51 Gage, which measures streamflow in the SFSR downstream of Lyons Dam
- S-16 Gage, which measures Lyons Reservoir water surface elevation

PG&E reviews the gage data daily via a Supervisory Control and Data Acquisition (SCADA) system and its Hydrologic Data Storage and Retrieval Software for operations and to ensure compliance. Stage accuracy is verified using a staff gage during site visits and submits site visit records to U.S. Geological Survey (USGS) for annual review. PG&E and the USGS are each required to make a minimum of two low-flow measurements per year to validate gage data.

There are no minimum pool requirements in the existing FERC license and none have been proposed as part of the Proposed Project. However, PG&E, in coordination with the TUD, currently attempts to maintain a minimum pool in Lyons Reservoir of 1,500 acre-feet to protect water quality and provide a buffer against unanticipated water demand conditions.

Pending FERC approval, the Gaging Plan would be implemented the first full calendar year after the new license becomes effective (PG&E 2020b).

Land Use, Geology and Soil Resources Plans

Erosion Plan

The Erosion Plan was prepared for the Proposed Project and describes PG&E's responsibilities to minimize undesirable erosion or sediment delivery to streams and reservoirs during ground-disturbing activities, routine operations and maintenance, emergency situations, and planned projects within the FERC Project Boundary, with special emphasis on National Forest Service (NFS) and BLM lands. Erosion control and sediment management related to maintaining roads and trails, including associated infrastructure (e.g., culverts, ditch-outs, waterbars) are specifically addressed in the Project Roads and Trails Plan. PG&E would coordinate, to the extent appropriate, the efforts required under the Erosion Plan with other Proposed Project resource efforts, including implementation of other resource management plans and measures included in the new license.

The Erosion Plan objectives are to identify the following:

- PG&E's best management practices (BMPs) and the Forest Service Pacific Southwest Regional and National BMPs
- Practices that PG&E uses to control erosion and sedimentation with the FERC Project Boundary during routine operations and maintenance, and reconstruction or new construction of Proposed Project facilities, including emergency erosion control measures and protocols to control sedimentation during or after severe storm events

The specific erosion control measures or BMPs would be site-specific but would include all measures required by permits, in addition to applicable USFS BMPs for work on NFS land, or PG&E's BMPs while working on Proposed Project lands. PG&E's Construction Stormwater Management Department ensures that appropriate BMPs are implemented and maintained to prevent stormwater runoff. Additionally, non-stormwater BMPs, such as fueling, paving, waste material use and storage, stockpile management, spill control, and waste management BMPs would be implemented by PG&E year round for any construction or maintenance activities within the Proposed Project boundary.

Pending FERC approval, the Erosion Plan would be implemented the first full calendar year after the new license becomes effective (PG&E 2021b).

Spill Channel Erosion Evaluation and Mitigation Plan

A Spill Channel Erosion Evaluation and Mitigation Plan (Spill Channel Erosion Plan) would be developed by PG&E, agencies and stakeholders, beginning the first full calendar year after the new license becomes effective. The plan would describe current operational procedures and would provide a multi-phased approach to collecting additional information to determine whether spill operations are causing accelerated erosion in the spill channels, adverse effects on water quality, or potential impacts to resources associated with receiving waters. If adverse effects are occurring, PG&E would then develop potential mitigation strategies, as appropriate. The Spill Channel Erosion Plan would contain:

- Description of current operational procedures for use of spill channels and an evaluation of potential options/flexibility on use of some channels over others to protect physical and biological resources,
- Methods for evaluating erosion in spill channels and effects on receiving channels (physical [e.g., erosion or scour, water quality] and biological [e.g., fish, amphibians])
- Development of a Spill Channel Erosion Mitigation Plan, which would include the results of the preceding studies and recommendations for where mitigation is appropriate and feasible and provide conceptual approaches for mitigation for discussion with the agencies
- Development of an Implementation and Effectiveness Monitoring Plan, which would fully develop the conceptual approaches developed in the previous phase and provide information on costs, necessary permitting and permissions (i.e., right of way), construction design, restoration for potential

construction impacts, and monitoring, and a schedule for implementation of the Plan

- Implementation of the Implementation and Effectiveness Monitoring Plan (obtaining funding, rights-of-way; permitting; construction; mitigation of potential construction impacts; monitoring; and schedule)
- Reporting and consultation requirements

The Spill Channel Erosion Plan and any related or subsequent plans would be approved by the USFS and State Water Board prior to implementation.

Hazards and Hazardous Materials

Hazardous Materials Management Plan

The Hazardous Materials Management Plan (Hazards Plan) was developed for the Proposed Project and describes the storage, use, and transportation of hazardous materials by PG&E within the Proposed Project's FERC Boundary. PG&E would coordinate, to the extent appropriate, the efforts required under the Hazards Plan with other Proposed Project resource efforts, including implementation of other resource management plans and measures included in the new license. The goal of the Hazards Plan is to ensure that hazardous materials used during the routine operation and maintenance of the Proposed Project are stored, used, transported, and disposed of in accordance with all applicable state and federal laws, regulations, and guidelines. The Hazards Plan objectives are to identify the:

- Applicable laws and regulations
- Practices that PG&E uses to safely store, use, transport and dispose of hazardous materials used for the Proposed Project
- PG&E's spill response and reporting procedures
- PG&E's consultation requirements and Hazards Plan update process

Pending FERC approval, the procedures and requirements of the Hazards Plan apply to PG&E and its contractors and would be implemented the first full calendar year after the new license becomes effective (PG&E 2021b).

Fire Prevention and Response Plan

The Fire Prevention and Response Plan (Fire Plan) was developed for the Proposed Project and describes PG&E's responsibilities related to fire prevention and response in the vicinity of the Phoenix Hydroelectric Project.

Lands in the Proposed Project Boundary and the Proposed Project vicinity are managed by a combination of federal and state agencies, and private owners. The California Department of Forestry and Fire (CALFIRE), USFS, and Tuolumne County are responsible for fire prevention and suppression in Tuolumne County. These agencies collaborate with the National Park Service (NPS), to plan, prevent, and respond to wildfires in Tuolumne County. Agency and PG&E responsibilities are summarized in the following areas:

- Direct Protection Areas (DPAs) are geographic areas that are administratively defined, for which organized fire suppression activities are formally planned. Proposed Project facilities lie within a CALFIRE DPA. The USFS is the DPA agency for the surrounding federal lands, including the area in the immediate vicinity of Lyons Dam Reservoir and NFS land that intersects the MTC.
- State Responsibility Areas (SRAs) are areas of the state in which the financial responsibility of preventing and suppressing fires has been determined by the State Board of Forestry and Fire Protection to be primarily the responsibility of the state. CALFIRE has the primary responsibility for preventing and suppressing fires in SRAs. Proposed Project facilities lie within an SRA.
- Federal Responsibility Areas are areas under the jurisdiction of a federal agency. Fire prevention, planning, and suppression is the responsibility of the USFS on SNF lands which neighbor the Project Boundary.
- Tuolumne County responsibilities for reduction or avoidance of long-term vulnerabilities associated with wildland fire risks in the county are described in the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) developed by Tuolumne County. The MJHMP does not identify any mitigation actions that are specific to the Proposed Project or to PG&E, however, the MJHMP includes three mitigation actions that are generally applicable to the Proposed Project given TUD's reliance on the Proposed Project facilities for water storage and delivery. The MJHMP indicates that TUD is the Responsible Department for implementing these mitigation actions.
- PG&E's Responsibilities are identified in standard license Articles 22 and 23 of the existing Phoenix Project license. While PG&E is not responsible for

wildland fire suppression, Articles 22 and 23 include measures to prevent and suppress fires on Proposed Project lands:

- Article 22 requires PG&E to do everything reasonable within its power to prevent fires and to make advance preparation for suppression of fire
- Article 23 requires that PG&E shall not object, or prevent the use, by agencies with jurisdiction or persons under permit, of Phoenix Project water for fire suppression, for sanitary, and domestic purposes

Pending FERC approval, the procedures and requirements outlined in the Fire Plan apply to PG&E and its contractors and would be implemented the first full calendar year after the new license becomes effective (PG&E 2021b).

Recreation Resources Plans

Recreation Management Plan

The Recreation Management Plan (Recreation Plan) was developed for the Proposed Project and describes PG&E's responsibilities related to the development, operation, and maintenance of the Proposed Project recreation facilities during the new license term. The Proposed Project includes facilities that support recreation use at Lyons Reservoir and along the MTC. The objectives of the Recreation Plan are to:

- Maintain and ensure safe access to the Proposed Project recreation facilities
- Provide recreation facilities to accommodate existing and future recreation use
- Provide accessible recreation facilities
- Identify PG&E's operational and maintenance requirements

Pending FERC approval, the Recreation Plan would be implemented the first full calendar year after the new license becomes effective (PG&E 2021b).

Project Roads and Trails Management Plan

The Project Roads and Trails Plan (PRTP) was developed for the Proposed Project and describes PG&E's responsibilities related to the maintenance of the Proposed Project roads and trails during the license term. Proposed Project roads and trails are those that are used almost exclusively by PG&E to access, operate, and maintain the Proposed Project facilities. In most cases, Proposed Project roads are gated to prohibit

vehicular use by the general public. Pedestrian use of the Proposed Project roads and trails is allowed, except in locations where perimeter fencing is present for public safety purposes. The objectives of the P RTP are to:

- Identify the Proposed Project roads and trails covered under the plan
- Describe how and when condition surveys would be conducted along Proposed Project roads and trails that have not yet been surveyed
- Describe PG&E's inspection practices, road maintenance objectives, routine and non-routine maintenance practices, and procedures that would be implemented in the event that emergency road and trail repairs are needed
- Identify how PG&E would address Proposed Project-related erosion along Proposed Project roads
- Identify the measures that PG&E would implement to protect environmental and cultural resources, and to protect water quality, when conducting Proposed Project road and trail maintenance
- Identify PG&E's consultation, permitting, and reporting requirements
- Identify procedures for periodically updating the plan

Pending FERC approval, the P RTP would be implemented the first full calendar year after the new license becomes effective (PG&E 2021b).

Cultural and Tribal-Cultural Resources Plans

Historic Properties Management Plan

The Historic Properties Management Plan (HPMP) was developed for the Proposed Project and builds on a series of cultural resource technical studies which identified historic properties in the Proposed Project's Area of Potential Effects (APE), in compliance with Section 106 of the National Historic Preservation Act (NHPA). The underlying studies and HPMP were completed in consultation with the Tuolumne Band of Me-Wuk Indians of the Tuolumne Rancheria of California, the SNF, and BLM. The contents of the HPMP are considered sensitive and privileged, and thus, identifying details are not discussed in this IS report. The HPMP contains:

- Standard resource protection measures
- Site-specific resource protection measures

- Implementation procedures
- Implementation schedule for the effective management of historic properties within the APE

Pending FERC approval, the HPMP would be implemented following license issuance and the anticipated programmatic agreement developed pursuant to 36 Code of Federal Regulation (CFR) 800.14(b)(3).

Cultural Resources Management Plan

Pursuant to the existing Phoenix Project license, PG&E developed a Cultural Resources Management Plan (CRMP) and Programmatic Agreement (PA). The existing CRMP was approved by FERC in 1995 and was revised in 2001, 2011, and again in 2021 (FERC 2011; FERC 2021). PG&E has monitored the condition of cultural resource sites within the Proposed Project boundary as outlined in the monitoring plan which was approved in 2001. In 2011, due to the stable condition of the monitored cultural resource sites, PG&E proposed to revise the monitoring plan and schedule. FERC approved the revised plan and schedule on June 14, 2011. PG&E continued to monitor the condition of cultural resources sites within the Proposed Project boundary as outlined in the Revised Plan approved in 2011, using visual inspection and digital photography to record their condition. Results of monitoring between 2001 and 2011, indicated stable site conditions, and in 2021 PG&E proposed to revise the monitoring plan and schedule, with which the California State Historic Preservation Officer (SHPO) and the Tuolumne Band concurred. The new monitoring plan and schedule would be reevaluated at the end of 2025 in consultation with the California SHPO, the Advisory Council, and the Tuolumne Band. PG&E would then file a revised monitoring plan and schedule for FERC approval by January 31, 2026 (FERC 2021). Due to the sensitive nature of the CRMP contents, no further identifying details are provided in this IS report.

3.0 ENVIRONMENTAL FACTORS ANALYSIS

The following sections analyze the potential environmental impacts associated with the Proposed Project.

A brief explanation is required for all answers except “No Impact” answers that are supported by the information sources cited in the analysis. All answers must consider the whole action involved, including off-site as well as on-site, cumulative, as well as project-level, indirect as well as direct, and construction as well as operational impacts. The checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant.

3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.1.1 Environmental Setting

Lyons Reservoir, formed behind Lyons Dam, is located on the SFSR, approximately 10 miles from the nearest city of Sonora, California. Under normal operating conditions, it has a surface area of approximately 172 acres and a 4.5-mile-long shoreline. Lyons Reservoir lies in a valley surrounded primarily by undeveloped forested hillslopes, consisting of mixed conifer forest, ponderosa pine forest, riparian woodland, oak woodland, chaparral, montane meadow, and annual grassland. Dense forest obscures views of Lyons Dam and the reservoir. The dam and reservoir are not visible from State Highway 108 or any other primary travel corridor (PG&E 2017).

The SFSR downstream of Lyons Dam flows from an elevation of approximately 4,200-feet above msl at the dam to approximately 1,110-feet msl at New Melones Reservoir. The drainage is narrow with minimal access roads. Due to the rugged terrain and lack of access roads, the majority of the reach is not easily accessible by the public or visible from a primary travel corridor (PG&E 2017).

Water capture in Lyons Reservoir is diverted into the MTC, which consists of a lined and unlined ditch, and shorter sections of flume and pipe. The canal has been part of the landscape since it was originally put into service in 1851 and 1852 and has been operated continuously since that time (PG&E 2021c). The canal flows through private lands, including several residential areas.

Approximately 3.5 miles of the canal lie on scattered parcels of NFS land under SNF jurisdiction. Due to the heavily vegetated terrain, steep slopes, and viewing distances, the MTC is not visible from State Highway 108 and only occasionally visible from nearby residential roads (PG&E 2017).

Water is conveyed from the MTC via a buried penstock down a hillslope to Phoenix Powerhouse. The Phoenix Powerhouse, reconstructed in 1940, is a steel-framed structure measuring 32 feet by 40 feet. A small building was constructed next to the powerhouse in 2005 to house emergency battery banks. Up to 32 cubic feet per second (cfs) of water is discharged into the Phoenix Powerhouse tailrace, which flows into a short, riprapped channel and then into Powerhouse Creek. The Phoenix Powerhouse switchyard is located approximately 150-feet north of the powerhouse. There are no developed recreation facilities in the vicinity of the powerhouse, and the facilities are not visible from major roadways or residences. Oak woodland occurs around the vicinity of the powerhouse and up the hillslope, transitioning to conifer forest

at higher elevations. Riparian vegetation occurs along the tailrace and along Powerhouse Creek (PG&E 2017).

3.1.2 Analysis

- a) Would the Proposed Project have substantial adverse effect on a scenic vista?

No Impact. While there is no formal definition of what constitutes a scenic vista (Street 2010), scenic vistas are generally associated with pleasant views of natural surroundings (Cambridge Dictionary 2021). However, a scenic vista may include views of both natural and developed areas, or views of entirely developed areas, such as a rural town and surrounding agricultural lands (San Diego County 2018). The Lyons Reservoir and other Phoenix Project-related facilities are located in a heavily forested area with steep topography and limited access, and the Proposed Project facilities are not visible from any primary travel corridors (PG&E 2020a).

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

No Impact. Lyons Dam and Lyons Reservoir are not visible from State Highway 108 or any other primary travel corridor.

- c) Would the Proposed Project, 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 experiences from publicly assessable vantage point). If the Proposed Project is in an urbanized area, would the Proposed Project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. While there are no developed recreation sites within the immediate vicinity of the Phoenix Powerhouse, and the site cannot be viewed from any primary travel corridor, a day use site is located at the Lyons Reservoir, as well as a ditch fishing access parking area accessed near the town of Twain Harte, accessible from State Highway 108. PG&E plans to make improvements to both sites. Several hiking trails in the area include lookouts or vantage points that may be potentially impacted by the proposed construction, but these potential impacts would be temporary and short-term in nature and are therefore considered to be less than significant.

Lyons Reservoir Day Use Area

Planned enhancements at the Lyons Reservoir Day Use Area include improvements to bring the site up to current ADA accessibility standards, including developing an additional accessible picnic site and to provide an area for overflow parking for high-use days. This action would not permanently substantially degrade the existing visual character or quality of public views from the day use site and its surroundings. During construction, there is potential that the use of construction equipment, vehicles, and building materials may degrade the existing visual character, however, construction activities would be temporary and short-term in nature.

Section 4 Ditch Parking Access

Planned enhancements at the Section 4 Ditch site include improvements to the fishing access to meet current ADA accessibility standards. This work consists of providing disabled parking and developing accessible fishing access along the MTC.

This action would not permanently substantially degrade the existing visual character or quality of public views from the Section 4 Ditch site and its surroundings. During construction, there is potential that the use of construction equipment, vehicles, and building materials may degrade the existing visual character, however, construction activities would be temporary and short-term in nature.

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

No Impact. The Proposed Project would not create a new source of substantial light or glare which could adversely affect day or nighttime views in the area.

3.1.3 Mitigation Measures

None required.

3.1.4 Mitigation Monitoring

None required.

3.2 Agriculture and Forestry Resources

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

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1 Environmental Setting

Facilities associated with the Proposed Project are situated in a forested region of Tuolumne County, California, on land owned by PG&E, Sierra Pacific Industries, and other private property owners.

The Farmland Mapping and Monitoring Program (FMMP) produces maps to assist in analyzing potential impacts to agricultural resources across California (Figure 3.2.1-1).

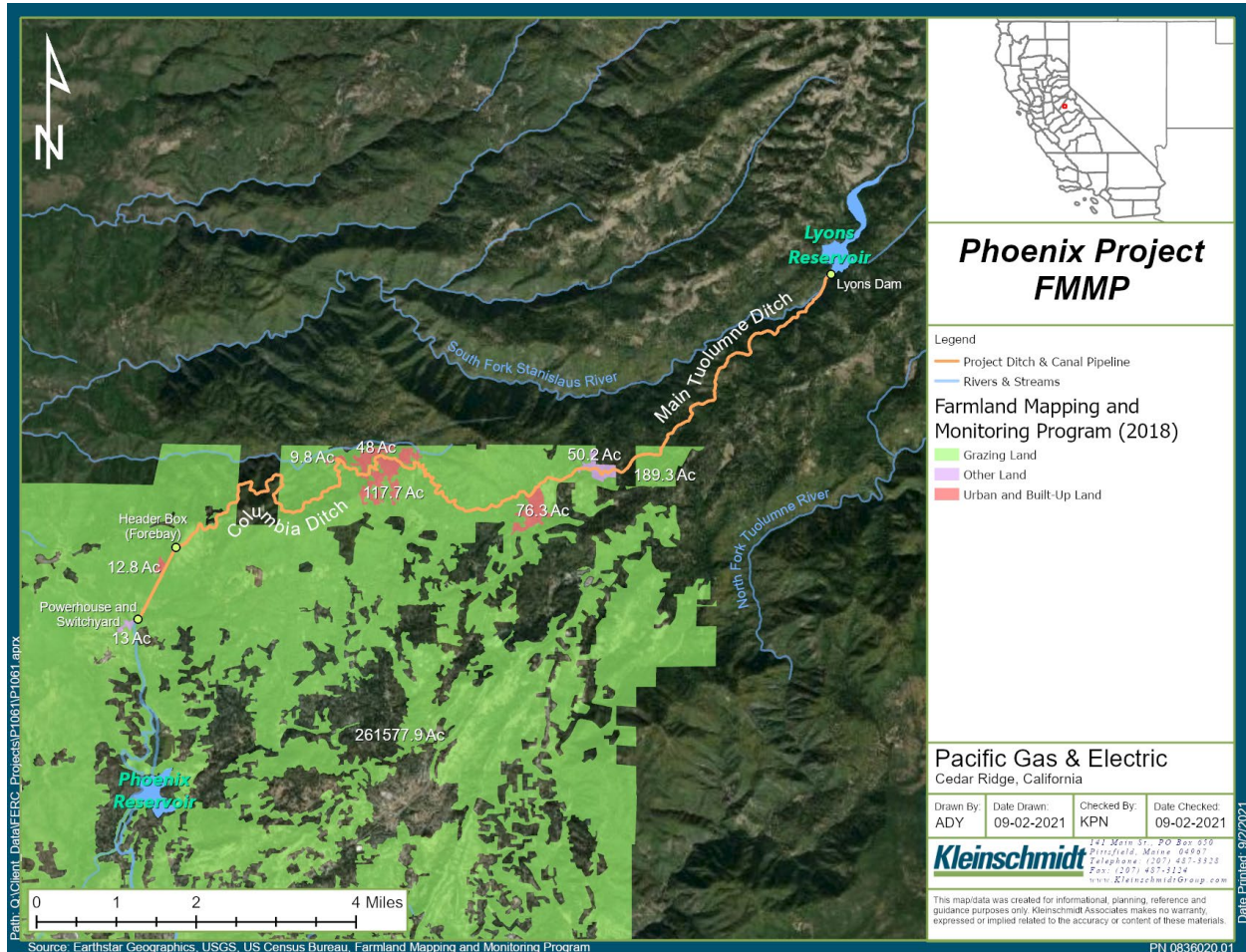


Figure 3.2.1-1 FMMP of the Proposed Project and Surrounding Area

3.2.2 Analysis

- a) Would the Proposed Project convert prime farmland, unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. Upon review of the FMMP (Figure 3.2.1-1), none of the Proposed Project Area or facilities are situated on prime farmland, unique Farmland, or Farmland of Statewide Importance. The Proposed Project would not convert farmland to non-agricultural use and therefore would have no potential impact.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. There are three parcels of land in Tuolumne County north of the Phoenix Reservoir and bordering the Main Tuolumne Ditch that are identified as agricultural land use (2592 acres, 104 acres, and 207 acres respectively, PG&E 2021d). The Proposed Project does not include any changes in the land use or zoning of lands within the Proposed Project Area.

- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The Proposed Project does not include proposals or plans for rezoning of any land, including forested lands, timberlands, or timberland zoned for Timberland Production.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Proposed Project does not include proposals or plans to deforest any portion of the lands within the Proposed Project Area or convert any existing forested lands to non-forest use.

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

No Impact. The Proposed Project does not include any changes to the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

3.2.3 Mitigation Measures

None required.

3.2.4 Mitigation Monitoring

None required.

3.3 Air Quality

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	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Environmental Setting

The U.S. Environmental Protection Agency (EPA) has developed National Ambient Air Quality Standards for six criteria air pollutants that are harmful to health and the environment. The six pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter. The ambient air quality standards are the level of air quality considered sufficient to protect public health and welfare (TCCRA 2018a).

The state of California divided the state into regional air basins based on the meteorology and geography of the region for the purpose of managing air quality on a regional basis. Tuolumne County is in the Mountain Counties basin along with eight other counties (CARB 2019). The CARB is responsible for reducing air pollution, developing state standards, identifying pollutants that pose health risks, and protecting public health (CARB 2021a).

The EPA designates individual counties into classifications depending on whether the county is in attainment or nonattainment with the criteria air pollutants or whether the county is unclassified. In addition, the state of California developed the California Ambient Air Quality Standards and designates counties by their attainment status. California has standards for sulfates, hydrogen sulfide, and visibility producing particles. The attainment status of Tuolumne County with the federal and state air quality standards is provided in Table 3.3.1-1. Tuolumne County is in nonattainment with the federal and state ozone standard and is unclassified or in attainment with the other pollutants. Tuolumne County is in nonattainment with ozone because of transport of emissions from upwind areas (e.g., Sacramento Valley, San Joaquin Valley) (CAPCOA 2015; TCCRA 2018b). Tuolumne County does not need to develop an attainment plan for ozone because CARB determined that the ozone violations result from the transport of emissions into the county (TCCRA 2018b).

Table 3.3.1-1 Attainment of State and Federal Standards

Pollutant	Federal Standard	State Standard
Ozone	Nonattainment	Nonattainment
PM ₁₀	Unclassified	Unclassified
PM _{2.5}	Unclassified/Attainment	Unclassified
CO	Unclassified/Attainment	Attainment

Pollutant	Federal Standard	State Standard
NO ₂	Unclassified/Attainment	Attainment
SO ₂	Unclassified/Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	NA	Attainment
H ₂ S	NA	Unclassified
Visibility Reducing Particles	NA	Unclassified

Source: USEPA 2021, CARB 2020

The Tuolumne County Air Pollution Control District (TCAPCD) is responsible for planning to meet the federal and state air quality standards within the county, for implementing emission standards, and for regulating stationary sources. Pursuant to TCAPCD regulations, a project would have a significant potential impact on air quality if it results in emissions in excess of the following thresholds (TCAPCD 2021):

- Reactive Organic Gases – 1,000 pounds (lbs.)/day or 100 tons/year
- Oxides of Nitrogen – 1,000 lbs./day or 100 tons/year
- Particulate Matter – 1,000 lbs./day or 100 tons/year
- Carbon Monoxide – 1,000 lbs./day or 100 tons/year

The Tuolumne County General Plan (General Plan) was developed to guide growth and development within the county, to protect natural and cultural resources, and to protect the rights and values of the communities and residents (TCCRA 2018a). The following goals and policies of the air quality component in the General Plan are applicable to the Proposed Project.

Goal 15A: Develop and sustain an air quality program that protects the public health and ambient air quality while encouraging the economic vitality of local businesses and industries.

Policy 15.A.1: Accurately determine and fairly mitigate the local and regional air quality potential impacts of land development projects proposed in the county.

Policy 15.A.2: Integrate land use planning, transportation planning, and air quality planning to make the most efficient use of public resources and to create a more livable environment.

Policy 15.A.4: Reduce emissions from project construction.

Policy 15.A.4.k: Require dust-control measures during all project related site preparation activities.

3.3.2 Analysis

- a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The Proposed Project was reviewed for consistency with the following plans: air quality component of the General Plan and with CARB regulations. Based on this review, the Proposed Project is consistent with the General Plan and would not have an adverse potential impact on air quality. The continued operation of the Phoenix Project and implementation of the Proposed Project would not conflict with or obstruct implementation of any applicable air quality plans. There would be no new emission sources associated with the Proposed Project throughout the term of the new license.

Implementation Program 15.A.k of the General Plan requires dust control measures such as watering down soil to control wind borne dust, covering exposed piles of dirt, sand, or gravel, limiting vehicle speed, properly maintaining construction equipment, minimizing equipment idling, and using equipment in compliance with CARB regulations (TCCRA 2018a). This would minimize or eliminate particulate matter emissions.

- b) Result in a cumulatively considerable increase in any criteria pollutant for which the Proposed Project region is non-attainment under an applicable federal or state ambient air quality standard.

No Impact. The continued operation of the Phoenix Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Proposed Project region is in non-attainment. Tuolumne County is in nonattainment for the federal and state ambient ozone standard. The continued operation of the Phoenix Project would not result in a change in population or changes in vehicle use at the Proposed Project. Temporary sources of emissions may include off-road construction equipment, on-road trucks, worker vehicles for commuting, and fugitive dust from ground disturbance activities. The construction associated with the upgrades to recreation facilities would be

temporary and any short-term increases in emissions would not exceed the TCAPCD thresholds or require additional emission reduction measures.

- c) Expose sensitive receptors to substantial pollutant concentrations.

No Impact. Sensitive receptors include children, the elderly, and people with respiratory diseases (e.g., asthma). Sensitive receptor locations include schools, hospitals, long-term care or convalescent facilities, and daycare facilities (CARB 2021b). The Phoenix Project is located in the rural, densely forested foothills of the western slope of the Sierra Nevada mountains with limited access. The city of Sonora is approximately 10 miles to the southeast of the Proposed Project. Several schools are within approximately three miles or less from Proposed Project facilities. Emissions from equipment used for routine maintenance (e.g., handheld equipment, lawn care) and vehicles would not be any different under the Proposed Project than the current conditions. Potential temporary emissions from short term construction at the Proposed Project recreation sites (Section 4 Ditch fishing access and Day Use) would be minimal. No sensitive receptors would be exposed to substantial pollutant concentrations.

- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The operation of the Proposed Project would not introduce other emissions or odors that would affect a substantial number of people. Short term construction at the recreation sites would not produce new or permanent sources of odors. Any potential sources of odors from construction equipment, such as diesel exhaust or paving, would be short term and would dissipate quickly with increasing distance from the source.

3.3.3 Mitigation Measures

None required.

3.3.4 Mitigation Monitoring

None required.

Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.4 Biological Resources

3.4.1 Environmental Setting

The Proposed Project is situated in the foothills of the western Sierra Nevada in Tuolumne County, California. The primary Proposed Project features, Lyons Dam and

Reservoir, are located on the SFSR, which flows into the U.S. Bureau of Reclamation's New Melones Reservoir, the largest in the Stanislaus River watershed (2,420,000 acre-feet). The Stanislaus River watershed upstream of New Melones Reservoir includes three primary forks including the North, Middle, and South Forks. These headwater watersheds originate in the high Sierra Nevada and range in elevation from 6,700- to 9,650-feet above msl and encompass approximately 1,000 square miles. The upper and lower watersheds of the Stanislaus River are separated at Goodwin Dam and Goodwin Reservoir which impounds the Stanislaus River approximately 20 miles downslope from the Proposed Project (CALFIRE 2017), and downstream of New Melones Reservoir. Goodwin Dam is located at a geographical transition between mountainous terrain and lower gradient foothill and valley topography and represents the upstream extent of anadromous fish passage in the watershed.

Information on the Stanislaus River watershed, drainage areas, and stream length available for fish and wildlife in the basin is provided in

Table 3.4.1-1 (CALFIRE 2017).

Table 3.4.1-1 Drainage Area and Stream Length of Waters in the Upper Stanislaus Watershed

Stream Name	Total Sub-basin Area (square miles)^a	Sub-divided Area (square miles)	Stream Length (miles)
South Fork Stanislaus River			
Headwaters to confluence with Stanislaus River	107.2		46
Headwaters to Lyons Dam		67.2	26.6
Lyons Dam to confluence with New Melones Reservoir		39.9	17.7 ^a
Middle Fork Stanislaus River			
Headwaters to confluence with North Fork Stanislaus River	284.6		55.5
Clark Fork of the Middle Fork Stanislaus River	68.4		18.1
North Fork Stanislaus River			
Headwaters to confluence with Middle Fork Stanislaus River	272.2		31.2
Other Major Rivers in the Watershed			
Copperopolis sub-basin	247.6		
Table Mountain sub-basin	17.8		
Total Watershed Area	997.8		

Source: Cal Water 2.2.1 (CALFIRE 2017)

^a Miles of stream from Lyons Dam to the confluence with New Melones Reservoir.

The climate in the Stanislaus watershed where the Proposed Project is located varies. Above 5,000-feet msl, the climate is characterized by warm, dry summers and cool winters with moderate to heavy snowfall. Below 5,000-feet msl, warm, dry summers are also common with moderate to heavy rain in winter (FERC 1992). Nonetheless, the localized climate varies considerably within the watershed. Annual average precipitation is approximately 32 inches, as recorded near Sonora, California (WRCC 2019).

Operational flows and reservoir operations associated with the Proposed Project have the potential to affect fish and other aquatic organisms in the area, SFSR bypass reach, Lyons Reservoir, and nearby terrestrial habitats. Reservoir operations can affect temperature and oxygen levels, which affect the quality of habitat for aquatic species. Regulated flows can also affect habitat availability and quality in the Proposed Project bypass reach during non-spill periods throughout the year, affecting conditions for various life stages of fish and other aquatic life, including the FYLF.

Fish species reported to occur or with the potential to occur in the Proposed Project Area include rainbow and brown trout (*Oncorhynchus mykiss*, *Salmo trutta*), hardhead (*Mylopharodon conocephalus*), Sacramento pikeminnow (*Ptychocheilus grandis*), California roach (*Lavinia symmetricus*), hitch (*Lavinia exilicauda exilicauda*), Sacramento sucker (*Catostomus occidentalis lacusanserinus*), redeye bass (*Micropterus coosae*), largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), brown bullhead (*Ameiurus nebulosus*), and white catfish (*Ameiurus catus*) (PG&E 2020a). Of these, the majority were documented in surveys completed in 2018 in the SFSR, while only Sacramento suckers, green sunfish, largemouth bass, and brown bullhead have been collected in the Lyons Reservoir recently (PG&E 2019).

The redeye bass is a fish species native to the southeastern United States that was introduced into the SFSR by CDFW to provide sportfishing opportunities to the public. Since their introduction approximately 40 years ago, the redeye bass has become the dominant fish species in the lower SFSR and may exert predation and other indirect pressure on native fishes and amphibians, such as the FYLF.

Rainbow trout have been stocked in the Lyons Reservoir for the recreational put-and-take fishery by CDFW since the early 1990s (CDFW 2020). CDFW maintains a trout planting program in the MTC to provide sport for recreational fishers near the Section 4 Ditch and Columbia Ditch. Amphibian and aquatic reptile species known to, or which have the potential to occur in the SFSR bypass reach, as well as in the Proposed Project vicinity include California tiger salamander (*Ambystoma californiense*), Sierra newt (*Taricha sierrae*), western toad (*Anaxyrus boreas*), American bullfrog (*Lithobates catesbeianus*), Sierran treefrog (*Pseudacris sierra*), FYLF (*Rana boylei*), California red-legged frog (*Rana aurora draytonii*), Sierra Nevada yellow legged-frog (*Rana sierrae*), western pond turtle (WPT) (*Actinemys marmorata*) and Sierra garter snake (*Thamnophis couchii*).

Surveys for Sierra newt, treefrogs, bullfrogs, western toads, and Sierra garter snakes were not conducted for the relicensing as they are common and have no conservation status. No surveys for California tiger salamander, California red-legged frog, or Sierra

Nevada yellow-legged frog were conducted because they have not been documented in the Proposed Project Area and suitable habitat is lacking. The CDWR's California Wildlife Habitat Relationships database of habitats were mapped within one mile of the Proposed Project's FERC Boundary and along the SFSR bypass reach and tributaries to provide information on habitat types and associated amphibian and aquatic reptile species present within and directly adjacent to the FERC Project Boundary and SFSR bypass reach. Results of the database are available in Volume III of the FLA (PG&E 2020a).

As described in Section 2.2.5 *Proposed Environmental Measures and Management Plans*, both an ARP and a Wildlife Plan were prepared for the Proposed Project as part of the relicensing with input from relevant resource agencies and stakeholders. The ARP describes PG&E's responsibilities related to the management of aquatic resources over the term of the license and includes stipulations for regular monitoring of aquatic resources in addition to measures for the protection of fish, FYLF, and water temperature. The Wildlife Plan (PG&E 2021b) describes PG&E's responsibilities related to the protection of special status wildlife and general nesting birds that are protected under the MBTA that may be potentially negatively impacted during non-routine Proposed Project operations, maintenance, and construction activities during the license terms. These plans would be implemented following FERC approval and issuance of the license.

3.4.2 Analysis

- a) Would the Proposed Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS?

Less Than Significant Impact

There are seven species of special status bats, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis*), western red bat (*Lasiurus blossevillii*), western small-footed myotis (*Myotis ciliolabrum*), fringed myotis (*Myotis thysanodes*), and Yuma myotis (*Myotis yumanensis*) that occur in habitat along the MTC and at Lyons Dam. There is potential for minor disturbance or disruption to special-status bats that may roost in the vicinity of the MTC during construction activities, although abundant natural habitat away from Proposed Project infrastructure exists. There is no potential for disturbance of maternal roosting special-status bats as

no maternal roosting habitat has been identified on the MTC or PG&E facilities around the dam.

There are two special-status aquatic species known to occur in the Proposed Project Area. The FYLF is a California State Threatened Species, USFS Sensitive, and Federal Candidate species under the U.S. Endangered Species Act of 1973 and inhabits low gradient rivers, streams, and riparian areas with cobble, boulder, and exposed basking areas. The WPT is a California Species of Special Concern, and USFS Sensitive Species that is present in the SFSR bypass reach, though information on abundance, distribution, and population demography is limited.

In December 2016, the Center for Biological Diversity submitted a petition to the California Fish and Game Commission to list the FYLF as a threatened species pursuant to the California Endangered Species Act (Fish and Game Code, § 2080 et seq) (CESA). The California Fish and Game Commission followed CDFW's recommendation and voted to advance the species to candidacy on December 11, 2019.

As of July 7, 2017, projects within FYLF habitat may need authorization for take if take cannot be avoided. Such authorization could take the form of an incidental take permit (Fish and G. Code § 2081, subd. (b); Cal. Code Regs., tit. 14, §§ 783.2-783.8), a consistency determination if federal incidental take has been authorized (Fish and G. Code, § 2080.1), a safe harbor agreement (Id., § 2089.6), or a natural community conservation plan (Id., § 2835). Take authorization issued pursuant to CESA requires project- and species-specific avoidance and minimization measures, as well as full mitigation for project related potential impacts (CDFW 2018).

There are many factors that may influence success of FYLF in the SFSR including flow recession, temperature, non-native species, disease, potential sedimentation from spill channels, sediment transport issues, and habitat isolation. Predation by redeye bass (a species invasive to the SFSR) may persist or worsen under continuation of minimum flows, resulting in continued exclusion of the native vertebrate community (USFS 2020).

Conditions for breeding and rearing of FYLF during both regulated and unimpaired flows may be especially influenced during project dry (MIF dry and critically dry) WYs. If mainstem habitat becomes unsuitable due to water temperature, aquatic invasive predators (such as redeye bass), or project-related hydrology, populations of FYLF in SFSR tributary creeks may become isolated

and would be more at risk of genetic shifts or stochastic watershed events (USFS 2020).

WPT prefer pools and backwaters with large woody debris and rock outcrops for basking. They nest outside the channel in friable soils above the ordinary high-water lines, primarily in the spring – summer between May and July. Hatchlings use slower moving areas and can leave the river if flow becomes unsuitable. The Proposed Project would result in a reduction in peak flows, which could lead to potential impacts to stream sediments (alluvium). Reductions in peak flows would influence the stability of existing predator-free habitat, including pools and backwaters, and affect the creation of new predator-free habitat (USFS 2020). Careful monitoring of WTP habitat under the ARP would provide information on any measurable potential impacts from the Proposed Project.

The CDFW identified species of native mussels and Pacific lamprey (*Entosphenus tridentatus*) to be of interest and recommended focused surveys or environmental DNA sampling to better understand the abundance and distribution of these species in the Phoenix Project reaches and the potential impact of Proposed Project operations on their populations (CDFW 2020).

The presence of redeye bass in the Proposed Project area has the potential to impact the abovementioned special-status aquatic species either through direct predation or other indirect effects. Redeye bass were introduced by CDFW in the 1960s and are now a dominant species that thrives on conditions of low MIF warm water habitat which may be detrimental to survival and distribution of more sensitive aquatic species (Moyle et al., 2003). The Redeye Bass Management Plan (RBMP) (part of the ARP) defines a process for testing very low or zero test flows designed to isolate populations of bass where they would either experience mortality or be more easily subject to predation by bird and water-snakes than under normal flow conditions. The RBMP includes feasibility assessment of additional bass management measures such as active removal during low-flow conditions (USFS 2021). The goals of the RBMP are to reduce bass populations in the SFSR, benefiting any populations of FYLF existing in the SFSR. Implementation of the RBMP may result in temporary declines in other fish populations which may represent potentially significant impacts, but these fish species (evolutionarily adapted to drought) are expected to recover with return of MIFs as has been observed elsewhere, mitigating the effect of RBMP implementation (USFS 2021) to manage stream flows and invasive species for the benefit of native species and protection of aquatic habitat conditions.

The Proposed Project reflects tentative concurrence between PG&E and most participating stakeholders regarding WY types, MIFs, and other operations and maintenance and protection, mitigation, and enhancement measures that may affect these species. The associated changes in WY classification and increased MIFs during some months in some WYs would provide protection for downstream resources without substantial potential impacts to water supply.

The ARP includes proposed monitoring of fish, aquatic species, FYLF specifically, and water temperatures in the SFSR bypass reach. Further, components of other regional management plans developed as part of the Proposed Project (Wildlife Plan, Vegetation Plan, and Erosion Plan) include protection and mitigation measures for aquatic life. Other special status species amphibians and reptiles that could potentially occur but are unlikely to be present in the Proposed Project Area include California red-legged frog and Sierra Nevada yellow-legged frog.

The Proposed Project does not represent a significant difference in operations, habitat availability, or quality than exists under current operations. Changes in MIFs as described in the Proposed Project may result in differences in flow regime and temporary changes in available habitat in dry WYs experienced by FYLF and WPT. Proposed studies on the population status and habitat of both species under the ARP may identify mitigation requirements to preserve or protect these species.

- b) Would the Proposed Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or USFWS?

No Impact. The Proposed Project would result in regulated flows that would produce nearly the same conditions as under the existing license granted in 1992. Therefore, riparian habitats and other natural communities would continue to experience nearly identical conditions compared to the current Phoenix Project operations, although natural variability associated with wet, normal wet, normal dry, dry, and critically dry WY types would continue to occur.

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

No Impact. There are no federally protected wetlands in the Proposed Project Area, therefore no potential impact is expected.

- 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?

Less than Significant Impact. Under the Proposed Project, all dams and diversions currently in place are considered part of the existing environment. As the Proposed Project does not include construction or expansion of new or existing diversions, no changes in the movement of fish or wildlife community relative to the existing condition would be expected. Under conditions of Extremely Dry WYs in the SFSR, flow rates, migratory corridors, and available habitat does decrease for aquatic species in ways that are potentially significant, but these effects exist under current operational conditions of the Phoenix Project. The effects are temporary and not likely to worsen or become a source of significant potential impact relative to the existing conditions of the Phoenix Project. The ARP is in place to monitor aspects of the native and migratory fish community and to evaluate long term trends. Specifically, the ARP includes annual monitoring of the distribution, population, and movement patterns of resident fish and wildlife species and analysis of these data to identify changes, especially those indicating a loss of distribution (range), population size, or fitness in the SFSR. Any observed changes in the current native or migratory fish and wildlife species would result in action under the ARP to mitigate, protect or enhance the affected resource.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. No policies or ordinances protecting biological resources other than those in place for species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations have been identified for the Proposed Project Area for biological resources.

- 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?

Less Than Significant Impact. The Tuolumne County Basin Plan does not reference biological resources in the SFSR or other areas of the Proposed

Project (Tuolumne 2018b). The ARP would serve as the protection and conservation plan for biological resources in the Proposed Project Area.

3.4.3 Mitigation Measures

None required.

3.4.4 Mitigation Monitoring

None required.

3.5 Cultural Resources

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

3.5.1 Environmental Setting

Cultural resources include prehistoric resources, historic resources, Native American resources, and paleontological resources. Prehistoric resources represent the remains of human occupation prior to European settlement. Historic resources represent remains after European settlement and may be part of a “built environment” including man-made structures used for habitation, work, recreation, education, and religious worship. Paleontological resources include fossils, pollen, and spores that provide evidence of prehistoric ecology and evolution (County of Tuolumne 2018b). Native American resources, or Tribal-Cultural resources, are described in Section 3.18 *Tribal and Cultural Resources* of this document.

Three historic properties were identified as eligible for the NRHP as part of the relicensing process for the Proposed Project. The California SHPO concurred with the sites' eligibility in 2020.

Monitoring of historic properties is required by the 1994 PA and accompanying CRMP under the existing license for the Phoenix Project. As part of the Proposed Project, PG&E proposed to remove the monitoring requirement for one of the sites, due to lack of potential Proposed Project-related affects, and instead would add a second site, which PG&E would monitor until 2025, or until a new HPMP is implemented (PG&E 2021c). By letter dated January 26, 2021, the California SHPO did not object to the proposed revision to the CRMP (CSHPO 2021b).

3.5.2 Analysis

- a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA § 15064.5?

Less Than Significant Impact. The MTC and Section 4 Ditch are eligible for listing on the NRHP, as concurred by the California SHPO on June 30, 2020 (CSHPO 2020). Planned enhancements at the Section 4 Ditch parking access include improvements to the fishing access to meet current accessibility standards. This work consists of providing accessible parking and developing accessible fishing access along the MTC. While work would not potentially directly impact the ditch or the canal, the effects of construction activities have potential to temporarily impact the site. The existing CRMP for the Phoenix Project explicitly acknowledges the need to manage the MTC as a living system, due to its continued use as a working system. As the canal continues to serve a vital purpose, changes that do not affect one or more of the character-defining features would be considered not adverse. As part of the proposed HPMP, in-field outreach efforts would be focused on the Section 4 Ditch day-use area to increase public education of the canal's prominent role in the area's history (PG&E 2021c).

A range of standard resource protection measures (RPMs) may be applied to avoid adverse effects to historic properties during operation and maintenance of the Proposed Project. If standard RPMs are insufficient, PG&E's Cultural Resource Specialist would apply the criteria of adverse effects and draft a Finding of Effect, which would be used to consult the California SHPO for the Proposed Project activities. Resolution of adverse effects would occur through the development and implementation of a Historic Property Treatment Plan (PG&E 2021c).

- b) Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5?

Less Than Significant Impact. Regular operations and implementation of the Proposed Project would likely have minimal effect on archaeological resources throughout the life of the license. However, activities currently included in the Proposed Project may require hand excavation in and around an eligible archeological site. FERC has determined that while this undertaking would allow for only minimal ground disturbance in mostly disturbed areas, when considered cumulatively with regular operations and maintenance of the Proposed Project, the ground disturbance has the potential to have significant impacts (CSHPO 2021a). The proposed HPMP was developed in consultation with the Tuolumne Band of Me-Wuk Indians and proposes use of archeological excavation methods to remove soils, directs data recovery investigations and analysis of cultural material recovered, and would entail drafting of a technical report documenting the results.

- c) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. It is unknown if human remains, including those interred outside of formal cemeteries, are present within the Proposed Project Area. As discussed in Section 3.18 *Tribal and Cultural Resources* of this document, areas within the Proposed Project Area were frequently used by historic indigenous people and remain significant to the Tuolumne Band of Me-Wuk Indians. Human remains, graves, and cemeteries that may be encountered during Proposed Project-related activities are protected by state and federal law. For all Proposed Project-related activities, the general policy would be strict avoidance of all human burials, whether marked or unmarked, whenever possible. Should human remains be discovered in the course of regular operation and maintenance activities for the Proposed Project, PG&E would initiate tribal and agency consultation and follow the protocols required by state and federal law, as well as the responses developed in the Proposed HPMP (PG&E 2021c). Any ground disturbing activities would follow the guidelines outlined in the Proposed HPMP.

3.5.3 Mitigation Measures

None required.

3.5.4 Mitigation Monitoring

None required.

3.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Environmental Setting

The state of California relies on a mix of energy sources including natural gas, fossil fuels, renewable, and nuclear sources. To increase the use of renewable energy resources in California, the Renewable Portfolio Standard (RPS) was established (CEC 2021a). The RPS requires that renewable energy resources constitute a certain percentage of electricity sales by all electric utilities to California end-use customers. The RPS program initially required that 20 percent of electricity sales be renewable by 2017; this number was increased to 33 percent by 2020 (CPUC 2021). Senate Bill 100 (the 100 Percent Clean Energy Act of 2018) updated the RPS requirements to 60 percent by 2030 and established a goal that renewable energy and zero carbon resources supply 100 percent of electric retail sales to California end-use customers by 2045 (CEC 2021b).

All electricity in Tuolumne County is provided by PG&E. In 2020, over 35 percent of energy provided by PG&E to the state of California was from renewable sources, such as hydropower, which qualify under the RPS (PG&E 2021b).

3.6.2 Analysis

- a) Is there a potential to significantly impact the environment due to wasteful, inefficient, or unnecessary consumption of energy resources, during the Proposed Project construction or operation?

Less Than Significant Impact. Energy consumed at the existing Phoenix Project includes transportation to and from the Proposed Project Area; electric, gasoline, or diesel-powered equipment; interior and exterior lighting; gate operation; and computers. PG&E uses vehicles that are compliant with state and federal vehicle emission standards and follows other measures, such as minimizing idling and proper vehicle maintenance, to avoid the unnecessary consumption of energy.

Under the Proposed Project, equipment operation would consume fuel during the proposed construction and improvements of the recreation sites. Equipment would only be operated on a short-term basis (less than six weeks) and only when necessary. Energy efficient equipment that is compliant with off-road emission standards would be used during construction.

Negligible changes in the amount of hydroelectric energy produced due to proposed changes to WY types, minimum flows, or ramping rates as included in the Proposed Project would not potentially impact PG&E's ability to meet the RPS.

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

No Impact. Small hydroelectric power plants (less than 30 MWs), including both the existing and Proposed Project, qualify as renewable energy under the RPS. The continued operation of the Phoenix Project would not conflict with or obstruct a local or state plan for renewable energy or energy efficiency but would assist PG&E in meeting its requirements under the RPS.

3.6.3 Mitigation Measures

None required.

3.6.4 Mitigation Monitoring

None required.

3.7 Geology And Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii.) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv.) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.7.1 Environmental Setting

The Phoenix Project is located on the western slope of the Central Sierra Nevada. The primary underlying geology of the Proposed Project Area is granitic bedrock covered by volcanic mudflows and extrusive rocks. The north side of Lyons Reservoir overlies pyroclastic and volcanic mudflow deposits. The south side of Lyons Reservoir and the upper half of the MTC overlie Mesozoic granitic rocks of the Sierra Nevada batholith. Paleozoic marine rocks underlie the SFSR and the lower half of the MTC; these rocks are part of the Shoo Fly and Calaveras Complexes (PG&E 2020a). The soils in Tuolumne County are generally a shallow layer of weathered bedrock, glacial deposits, and organic accumulations (TCCRA 2018b). The soil series underlying the Proposed Project Area have slopes of 2 to 80 percent, are cobbly, gravelly or sandy loam, and are medium or well to excessively drained (PG&E 2020a).

Slope gradients along the Lyons Reservoir shoreline are moderate with the steepest slopes reaching 20 percent to 38 percent (PG&E 2020a). At the widest portion of the reservoir, the slope is approximately 14 percent. Aerial imagery and bathymetric surveys completed since 1996 indicate that the reservoir shoreline is stable and well vegetated. Sediment accumulation in the reservoir is minimal. There is a low potential for shoreline erosion because of the well vegetated shoreline and exclusion of on-water recreational activities. There is no evidence of slope instability at the Proposed Project dam (PG&E 2020a).

The Proposed Project bypass reach is moderately steep with a sinuous, narrow, and highly to moderately entrenched channel within a steep sided canyon. The reach has a low average gradient of 3.3 percent, but it does contain two short segments with higher gradients (seven to eight percent) (PG&E 2020a). The bypass reach is considered

stable because it is dominated by bedrock and boulder substrates which are generally insensitive to erosion effects from changes in flow (PG&E 2020a). Mass wasting and bank erosion are probable sources of erosion in the Proposed Project by reach. Surveys completed in 2018 confirmed limited evidence for hillside slope sediment inputs such as landslides. While the presence of boulder substrates indicated there are occasional rockfalls, there was no evidence for excessive bank erosion (PG&E 2020a).

In 2018, PG&E completed surveys to identify erosion sites in the MTC, spill channels, penstock bypass channel, and Powerhouse Creek (PG&E 2020a). Erosion sites were documented in each area resulting from sheet erosion, landslides, bank undercutting, or flow over earthen banks. Erosion sites were observed along fewer than one percent of Proposed Project roads. None of those roads were connected to waterways, therefore there is a very low potential for sediment deposition from Proposed Project roads.

Article 403 of the current license requires development of an erosion control plan at least 90 days before the start of land-clearing activities; this article is proposed to be included in the new license of the Proposed Project. Current maintenance activities at the Proposed Project include regularly inspecting and repairing, as necessary, erosion control features (e.g., drains, culverts, ditches) within the FERC Boundary. These activities would continue under a new license. In addition, several environmental measures and management plans would be implemented under a new license for the Proposed Project (PG&E 2020a).

PG&E regularly inspects and repairs, as necessary, erosion and sediment control features in the Proposed Project Area, monitors for new erosion sites, and maintains internal records of work completed. PG&E would follow NFS and BLM guidelines and monitoring requirements for work completed on NFS or BLM land and comply with the Annual Consultation with the USFS and BLM Measure. PG&E would follow all permit monitoring requirements. Implementation of the Main Tuolumne Canal Spill Channel Measure requires development of a Spill Channel Erosion Plan and an Implementation and Effectiveness Monitoring Plan. The Implementation and Effectiveness Monitoring Plan would further develop the mitigation plans, describe the monitoring that would be done with any erosion mitigation strategies developed for the spill channels, and describe the permitting and consultation requirements.

Tuolumne County General Plan

The General Plan contains information on natural hazards including policies and programs for protecting the community from the risks associated with natural hazards (e.g., earthquake, ground failure, landslides, mudslides, subsidence), reducing damage and loss from natural hazards, and for safe development (TCCRA 2018a). The General

Plan includes implementation of the Tuolumne County MJHMP which was developed to protect life, safety, and property by reducing the potential for future damages and economic losses that result from geologic hazards (County of Tuolumne 2018a). Goals and policies from the General Plan relevant to Geology and Soils are provided in the following section (TCCRA 2018a):

Goal 17A: Avoid the exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving natural hazards.

Policy 17.A.6: Ensure that all new construction is completed in a way most resistant to loss or damage from natural hazards.

Goal 17D: Protect new and existing structures and land uses from geologic hazards to minimize loss of life, injury, damage to property, and economic and social dislocations.

Relevant programs under Goal 17D include to direct development away from areas with known seismic or geologic hazards, apply zoning or land use controls to regulate development in hazardous areas, maintain and update geotechnical maps, and to require a geologic, seismic and/or geotechnical engineering report for development where a potential hazard exists (TCCRA 2018a).

Seismic Hazards

The potential seismic hazards resulting from an earthquake include ground or surface rupture along a fault line, liquefaction, subsidence, ground shaking, and mass wasting (e.g., landslides) (TCCRA 2018b). The closest faults to the Proposed Project are part of the Foothills fault system located approximately 12 miles to the west of the Proposed Project. This system covers approximately 200 miles from Mariposa in the south to Lake Almanor in the north and is a complex, braided system of individual fault segments. The fault segments include the Calaveras-Shoo Fly Thrust, Sonora fault, American Camp fault, Melones fault zone, and Bear Mountains fault zone (PG&E 2017, TCCRA 2018b). The Melones fault zone is classified as active, meaning that it has demonstrated displacement within the past 100,000 years. The estimated maximum capability of the Melones fault is magnitude 6.5 (Richter scale). The Bear Mountains fault zone is classified as indeterminable active, meaning that there is not definitive evidence of activity within the last 100,000 years (County of Tuolumne 2018a).

Ground shaking from potential seismic activity along the Foothills fault system is the primary potential hazard in Tuolumne County (TCCRA 2018a, b). Ground shaking can cause damage or destruction to infrastructure (e.g., pipelines, utilities, roads) and buildings as well as injury or loss of life. Earthquake activity in Tuolumne County has been below average for the state of California (County of Tuolumne 2018a). Over the

past 100 years, four earthquakes occurred in mountainous, remote areas of the county and did not cause substantial damage. The Tuolumne County MJHMP rated the probability of an earthquake event as low (TCCRA 2018b).

3.7.2 Analysis

- a) Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act, providing criteria for identifying active faults, was passed in 1972 to mitigate hazards from surface faulting by establishing zones around surface traces of active faults and issuing the maps to local governments. Structures for human occupancy cannot be constructed over the surface trace of active faults. There are no Alquist-Priolo earthquake fault zones designated in Tuolumne County (TCCRA 2018b; CDC 2019a). Therefore, the Proposed Project would not cause a rupture of a known earthquake fault.

- ii) Strong seismic ground shaking?

No Impact. The General Plan and MJHMP established that there is a low potential for seismic activity within the county (County of Tuolumne 2018a; TCCRA 2018a).

The potential for ground shaking to occur in an area is described by the percent probability of exceeding peak ground acceleration in the next 50 years. The predicted peak ground acceleration in Tuolumne County is less than 20 percent of gravity during a seismic event. There is a 28 percent chance of a 5.0 + (Major) earthquake within approximately 31 miles of Tuolumne, California within the next 50 years, and a 1 to 15 percent chance over the next 30 years (County of Tuolumne 2018a). There is a low risk of strong seismic ground shaking in the Proposed Project Area and operation of the Proposed Project does not increase the risks.

- iii) Seismic-related ground failure, including liquefaction?

No Impact. The Proposed Project is not in a liquefaction or landslide susceptible zone (CDC 2019a). There is a low risk of liquefaction due to a seismic related ground failure in the Proposed Project Area (County of Tuolumne 2018a).

iv) Landslides?

No Impact. The Proposed Project is not in a landslide susceptible zone (CDC 2019a). There is a low risk of landslide due to a seismic related ground failure in the Proposed Project Area (County of Tuolumne 2018a).

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant Impact. There may be a minor amount of ground disturbance over a new license term due to ongoing activities such as the use and maintenance of roads, routine construction or maintenance activities, and improvements at recreation sites. Erosion would likely continue to occur and there would be ongoing potential impacts to the MTC, spill channels, penstock bypass reach, and Powerhouse Creek. There would be no significant change in the amount or extent of erosion over a new license term. PG&E routinely monitors, inspects, and maintains all sections of the Phoenix Project and Proposed Project. This routine maintenance and the implementation and results of the forthcoming Spill Channel Erosion Evaluation would reduce the possibility of erosion and maintains the Proposed Project components in good overall condition.

Any ground disturbance would be required to be compliant with standard BMPs and management plans that are currently included as part of the Proposed Project. These plans include an Erosion Plan, a Spill Channel Erosion Plan, a PRTP, and a Vegetation Plan. Compliance with these plans would minimize or eliminate any potential impacts related to erosion or sediment delivery.

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?

No Impact. The Proposed Project is not located on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project. Soils in the Proposed Project Area are well drained indicating that the potential for a landslide at the Proposed Project is low (PG&E 2017, 2020a). Furthermore, the Tuolumne County MJHMP defines the probability and severity of a landslide or sinkhole occurring as low (County of Tuolumne 2018a). Based on the

geologic conditions of Tuolumne County, the risk of a landslide, lateral spreading, subsidence, or liquefaction is low.

- 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?

No Impact. Expansive soils contain expansive clays that can experience large changes in volume in response to changes in the soil water content. The soils may expand or contract depending on the water content which can cause damage to buildings and infrastructure (TCCRA 2018b). Soil types in the Proposed Project Area do not have a high clay content (PG&E 2017), making it unlikely that the Proposed Project is located on expansive soil.

Prior to any building in an area likely to have expansive soil, a soil test would be required. Section 1803.5.3 of the California Building Code provides the specifications used to determine if soils are expansive. If expansive soils are present within the development area, it would be identified through implementation of the General Plan.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The existing Phoenix Powerhouse has a septic system that is part of the Proposed Project; however, no changes are proposed. The remaining Proposed Project facilities have either a pit toilet or porta-potty. Soils incapable of adequately supporting a septic tank are not located within the Proposed Project Boundary. The Proposed Project would have no potential impact on septic tanks or wastewater disposal systems.

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. The Proposed Project is not located in an area where paleontological resources or unique geologic features are present.

3.7.3 Mitigation Measures

None required.

3.7.4 Mitigation Monitoring

None required.

3.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.8.1 Environmental Setting

Greenhouse gases (GHG) trap solar radiation in the atmosphere, where emissions above their natural concentrations in the atmosphere can cause the Earth's atmosphere to warm. Important GHGs include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons.

The California State Legislature and several Governor's Executive Orders have established GHG emission targets for the state. The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) set a target to reduce statewide GHG emissions to 1990 levels by 2020 (CARB 2021c). AB 32 requires CARB to develop a Climate Change Scoping Plan to identify the strategies for meeting the emission target; the plan is updated every five years. Executive Order B-3-15 establishes an emission target of 40 percent below 1990 levels by 2030. California's 2017 Climate Change Scoping Plan presents the strategies for achieving the 2030 emission target (CARB 2017). Executive Order S-3-05 sets a target to reduce statewide GHG emissions to 80 percent below 1990 levels by 2050 (CARB 2021b).

In 2012, the Tuolumne County Transportation Council conducted the Tuolumne County Regional Blueprint Greenhouse Gas Study to develop an inventory of existing (2010) and projected (2020, 2030, 2040) GHG emissions for the county and to evaluate policies and measures to reduce emissions consistent with AB 32 (Rincon 2012). The study evaluated development patterns and alternative growth scenarios for the county to identify the preferred growth alternative. The study identified a target to reduce Tuolumne County GHG emissions by 15 percent below current levels by 2020; this was consistent with the recommendations by CARB for emission reductions by local governments (Rincon 2012; CARB 2017; County of Tuolumne 2021a).

The General Plan provides implementation policies and programs to reduce GHG emissions consistent with state targets with regard to climate change. An objective of the General Plan is to develop a Climate Action Plan (CAP) that would identify emission reduction and climate adaptation measures for Tuolumne County; the plan is currently under development at the County. The CAP would identify existing and proposed emissions, set reduction targets, and establish policies to meet the targets. In 2019, on-road transportation emissions constituted 62 percent of the GHG emissions in Tuolumne County, followed by residential and non-residential building energy at 19 percent, agriculture and forestry at 14 percent, off-road vehicles at five percent, and small amounts of emissions from solid waste, wastewater treatment, and water supply (County of Tuolumne 2021a).

PG&E supports GHG emission reduction measures implemented by the state of California and has taken steps to reduce emissions from their operations. In 2020, approximately 85 percent of electricity supplied by PG&E was GHG free (PG&E 2021b).

3.8.2 Analysis

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

Less than Significant Impact. The Proposed Project is not a permanent or frequent source of GHG emissions as it produces renewable hydroelectricity without emissions. Minor amounts of GHG emissions would occur when vehicles are on site or through the use of gasoline or diesel-powered equipment.

The current minimum flows at the Phoenix Project range from 5 cfs to 10 cfs depending on the month. Minimum flows under the Proposed Project would continue to range from 5 cfs to 10 cfs by month, depending on the WY classification. Overall, implementation of the proposed changes to minimum flows under the Proposed Project would cause a negligible change in the amount of hydroelectric power generated. However, if these changes to the minimum

flow resulted in a decrease in hydropower generation, there could be a corresponding indirect increase in GHG emissions from fossil fuel powered electricity generation sources. This is unlikely to occur due to the emission targets and plans to achieve the targets mentioned above.

Considering the minor levels of GHG emissions that may be produced during the continued operation of the Proposed Project, the potential impacts from GHG emissions over the term of a new license would be less than significant.

Operation of the Proposed Project results in less GHG emissions than if the energy had been produced from fossil-fuel based sources.

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

No Impact. By providing renewable energy to Tuolumne County, the Proposed Project supports the General Plan and state plans for reducing GHG emissions. The Proposed Project does not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

3.8.3 Mitigation Measures

None required.

3.8.4 Mitigation Monitoring

None required.

3.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Environmental Setting

The California Health and Safety Code defines hazardous materials as “any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or threatened hazard to human health and safety or to the environment, if released into the workplace or the environment” (Health & Saf. Code § 25501, subd. (o)). Hazardous materials within the Phoenix Project Boundary may be regulated in accordance with federal, state, and local laws and policies. Applicable federal laws and regulations include:

- Resource Conservation and Recovery Act
- Hazardous Materials Transportation Act of 1975, as amended
- Clean Water Act
- Comprehensive Environmental Response Compensation and Liability Act and Superfund Amendment Reauthorization Act
- Emergency Planning and Community Right to Know Act
- Toxic Substances Control Act
- Title 40 of the CFR, Part 112 – Oil Pollution Prevention
- 40 CFR Part 1910.106, which contains the Occupational Safety and Health Administration (OSHA) regulations regarding the storage and use of flammable and combustible material
- 29 CFR Part 1910.1200, which contains OSHA’s standards regarding hazard communication

State agencies that may have jurisdiction over hazardous materials generally receive their authority through implementation of federal laws. Additional state laws and regulations may include the following:

- California Hazardous Waste Control Law and associated implementing regulations found in title 22, division 4 of the California Code of Regulations
- Carpenter-Presley-Tanner Hazardous Substances Account Act
- California Emergency Services Act

- Hazardous Materials Release Response Plans and Inventory (Health & Saf. Code, div. 20, ch. 6.95)
- Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (referred to as the Unified Program and overseen by California Environmental Protection Agency)
- California Fish and Game Code (Sections 5650-5652 and 5654-5656)

The Tuolumne County Division of Environmental Health is the Certified Unified Program Agency (CUPA) responsible for oversight of the use and storage of hazardous materials in the Proposed Project Area. In California, CUPAs provide administration and enforcement of all regulations pertaining to hazardous materials, hazardous wastes, underground storage tanks, and above ground storage tanks.

Any hazardous materials used for the routine operation and maintenance of the Lyons Dam and reservoir, the MTC, access roads, the Powerhouse, switchyard, and other Proposed Project-related facilities are stored in accordance with pertinent state and federal regulations. Hazardous materials are occasionally transported to approved sites located within the Proposed Project Boundary, when they are to be used for periodic maintenance. Spent materials are transported to approved maintenance facilities associated with the powerhouse or to an off-site facility permitted for approved disposal. Hazardous materials are not disposed of within the Proposed Project Boundary or on NFS or BLM lands (PG&E 2021b).

Hazardous substances and wastes used for the operation and maintenance of the Powerhouse and switchyard include:

- Sulfuric acid (wet cell lead acid batteries)
- Highly refined mineral oil (GST Oil 68; non-polychlorinated biphenyls [PCB] Electrical Insulating Oil)

Hazardous materials used for maintenance of the Phoenix Project facilities include:

- petroleum hydrocarbons, methanol, benzene (gasoline)
- petroleum hydrocarbons (diesel fuel)
- highly refined mineral oil (engine lubricants)
- alkaline compounds (cementitious materials)

- petroleum hydrocarbons (asphaltic materials)
- PCBs, formaldehyde (various caulks)
- polyglycols, glycerols (various epoxy sealants/coatings)
- hazardous regulated metals (various paints/coatings)
- salts, esters, and acids (herbicides)
- alkaline compounds, carbon monoxide (rodenticides)
- petroleum distillates, carboxylates (pesticides for wasp/yellow jackets)

3.9.2 Analysis

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

Less Than Significant Impact. All hazardous materials used to operate and maintain the existing Phoenix Project are stored in the Phoenix Powerhouse and adjacent switchyard, both of which are located on private land owned by PG&E, or at an off-site permitted facility. Storage processes and procedures would remain the same under the Proposed Project.

Hazardous materials are not stored on NFS or BLM lands; however, hazardous materials may be transported through these lands during the course of operations and maintenance work occurring in the Proposed Project (PG&E 2021b).

Hazardous materials are transported in PG&E utility vehicles or approved contractor vehicles. The California Vehicle Code requires operators of vehicles to ensure that loads are secure prior to moving the vehicle, and that all objects, including equipment inside the vehicle must be securely stored so as not to dislodge from the vehicle while in transit (PG&E 2012). When the quantity of hazardous material exceeds the California Department of Transportation Materials of Trade exception (49 CFR § 173.6), the transporter carries the shipping papers (PG&E 2021b). Within 60 days of hire, all new PG&E employees expected to drive routinely as part of their job receive new employee driver education, a complete review on the company motor vehicle standard and motor vehicle operation section in the PG&E Code of Safe Practices, and a

written copy of the latest changes for the California Vehicle Code and related laws (PG&E 2012).

- b) Would the Proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Pursuant to 40 CFR §112.1, businesses are required to maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan if the amount of total oil storage volume at any facility exceeds 1,320 gallons. Based on this criterion, an SPCC Plan is not required for the Phoenix Powerhouse and switchyard because the aggregate above ground volume of stored oil being used at these facilities does not exceed 1,320 gallons. Furthermore, based on routine operation and maintenance planning, it is unlikely that an oil spill would be discharged into or upon a navigable waterway (PG&E 2021b).

Additionally, non-oil hazardous materials are managed according to state and federal regulations regarding safe storage, handling, and use, as well as PG&E best practices.

While PG&E staff and contractors adhere to all local, state, and federal regulations regarding the safe handling and storage of hazardous materials, the Phoenix Powerhouse and switchyard, and the battery room, are vulnerable to hazardous materials release due to seismic motion (PG&E 2021b). These areas are identified in the Hazardous Materials Business Plan (HMBP) and maintained in the California Environmental Reporting System database. As part of the HMBP, PG&E would implement procedures to mitigate potential releases, such as those that may occur due to seismicity, including:

- Providing structural physical barriers (e.g., portable spill containment walls, built-in berms)
- Providing absorbent physical barriers (e.g., pads, mats, spill pillows)
- Covering or blocking floor and/or storm drains
- Eliminating sources of ignition for flammable hazards

Although SPCC measures are not required, per 40 CFR §112.1, Proposed Project staff are trained in emergency spill containment procedures as part of regular employee training plans. Protective equipment for the on-site emergency

response team is provided, as well as the absorbent material for spill containment. Equipment is to be decontaminated within a designated area and the wastewater to be disposed of as hazardous waste. Temporary safe storage of hazardous waste generated during emergency actions is provided (PG&E 2021b).

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

No impact. There are no existing or proposed schools within one-quarter mile of the Phoenix Powerhouse or any of the Proposed Project facilities. Sonora Elementary School is located four and a half miles southwest of the Phoenix Reservoir, while Gold Rush Charter School is located 2.7 miles northeast of the Reservoir. There are no schools within the vicinity of Lyons Dam or Lyons Reservoir.

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

No impact. The Proposed Project is not located on a site included in the Government Code section 65962.5 list, and as a result, would not create a significant hazard to the public or the environment.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No impact. The Proposed Project is not located within an airport land use plan and is not located within two miles of a public airport or public use airport (Shutt Moen Associates 2003). The Columbia Airport is located 13 miles by car to the west of the Phoenix Powerhouse (MapCarta 2021a). The Pine Mountain Lake Airport is located 14 miles southeast of the Phoenix Powerhouse (MapCarta 2021b). There are no airport facilities in the vicinity of Lyons Dam or Lyons Reservoir.

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

No impact. The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- g) Would the Proposed Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Less Than Significant Impact. Regular operation and maintenance activities in the Proposed Project Area and on Proposed Project facilities have the potential to ignite flammable materials. However, in accordance with Articles 22 and 23 of the existing license, fire prevention and suppression measures would continue to be implemented within the Proposed Project Area. Such measures include cutting back vegetation in proximity to facilities and maintaining basic fire suppression equipment in all company vehicles and at many of the Proposed Project facilities. Additionally, motorized equipment and vehicles used for maintenance activities have spark arrestors to prevent unintended fire ignition. Furthermore, PG&E maintains internal standards for preventing and mitigating fires while performing Proposed Project-related work, such as guidance for welding and other hot work, or operating outdoors near any forest, brush, or grass-covered land. PG&E standards are supplemented by local, state, and federal fire regulations. If a local or state fire regulation contains more stringent provisions than the PG&E standards, Proposed Project-personnel must follow the more stringent provisions (PG&E 2021b).

PG&E is not responsible or trained to suppress large wildland fires that could occur in the watershed (PG&E 2021b). In combination with spill prevention measures and safe handling procedures, Proposed Project-related fire management policies reduce the likelihood of direct or indirect exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires.

The lands surrounding Lyons Reservoir, Lyons Dam, the Section 4 Ditch fishing site, the Phoenix Powerhouse, and other facilities in the Proposed Project are heavily forested and land ownership is a mixture of private and public parcels. The SNF has a Fire and Aviation Management program that is committed to the management of all aspects of wildfire operations, including fire prevention (SNF 2021). Additionally, the CALFIRE Tuolumne-Calaveras Unit responds to fires on state owned lands to the south and west of the Proposed Project and has participated in fuel reduction projects near Phoenix Lake and near the Powerhouse on Lyons Road, east of the town of Sonora (CDFP 2020). The Stanislaus National Forest Fire and Aviation Management program and the

Tuolumne-Calaveras Unit work cooperatively with other public, tribal, and federal landowners to prevent and manage wildfires in the area (CDFP 2020; SNF 2021).

Further details of wildfire response are discussed in Section 3.20 *Wildfire* of this IS report.

3.9.3 Mitigation Measures

None required.

3.9.4 Mitigation Monitoring

None required.

3.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality??	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin??	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Result in substantial erosion or siltation on- or off-site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
in a manner which would result in flooding on- or offsite.				
iii. 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.10.1 Environmental Setting

The Phoenix Project receives water from the SFSR watershed which originates in the Emigrant Wilderness approximately 9,000-feet above msl and drains an area of 107.2 square miles. The SFSR, a part of the greater Stanislaus River watershed which includes North, Middle and South Forks, flows 46 miles from headwater sources until it

reaches the New Melones Reservoir, a facility managed by the U.S Bureau of Reclamation.

The climate conditions in the Stanislaus River watershed vary from warm, dry summers to cool winters. Above 5,000-feet msl, winter precipitation takes the form of moderate to heavy snowfall, while lower elevations can receive moderate to heavy rain (FERC 1992). Within the watershed, the local climate varies considerably based on elevation, proximity to the mountains, annual precipitation, and other factors. The average annual precipitation is approximately 32-inches per year (WRCC 2019), and total annual snowfall is approximately 5-inches per year. Air temperatures range from a maximum of approximately 100 degrees Fahrenheit (F) in summer to 30° F in winter months (WeatherBase 2021).

The volume of runoff from snow and rain as well as the seasonal dynamics of runoff timing can vary significantly from year to year. Generally, runoff begins in April, peaking in May or June. In especially dry years when total runoff volume is decreased, peaks tend to occur in May (PG&E 2020a).

Proposed Project Water Uses

Potential and existing water uses that apply to surface waters within the Stanislaus River watershed are identified in the California Regional Water Control Board, Central Valley Region's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. This basin plan identifies the water quality in the Stanislaus River, from the source to New Melones Reservoir, as suitable for beneficial uses including:

- Municipal and domestic supply
- Irrigation and stock water
- Hydropower production
- Contact recreation
- Potential for canoeing and rafting
- Other non-contact recreation
- Warm freshwater habitat for aquatic species
- Cold freshwater habitat for aquatic species
- Wildlife habitat (CVRWQCB 2018)

The Proposed Project would affect flows in the SFSR downstream of Lyons Dam at Proposed Project facilities including the dam and a cushion dam 80-feet-downstream, the MTC, Phoenix Header Box (Forebay), a penstock, and the Phoenix Powerhouse.

Water from the Phoenix Project is currently delivered to TUD under the terms of a purchase agreement executed between the parties in 1983 (1983 Water Supply Agreement [1983 Agreement]). Under the 1983 Agreement, PG&E sold the Tuolumne Water System to Tuolumne County in 1983 pursuant to California Public Utilities Commission Decision No. 8312064. TUD later assumed ownership of the Tuolumne Water System while PG&E maintained ownership of the Phoenix Project facilities and appurtenant water rights. Under the 1983 Agreement, PG&E is obligated to provide water to TUD through the MTC. During periods when Lyons Reservoir is not spilling, TUD provides PG&E with schedules for water deliveries to meet its domestic, irrigation, and manufacturing water use requirements. The 1983 Agreement limits the use of TUD water to within Tuolumne County and has no expiration date (PG&E 2020a).

Hydrology

There are various measures established by PG&E in the FLA that address hydrology and water quality. These include a Water Year Type Measure, Minimum Instream Flow Measure, Ramping Rate Measure, and a Main Tuolumne Canal Spill Channel Measure.

Water Year Type Measure

Under this measure, PG&E would use the CDWR WY forecast of unimpaired runoff inflow in the New Melones Reservoir to determine the WY type when implementing MIF, ramping rates, and the ARP. PG&E classifies WY types into five categories based on the unimpaired runoff flow into the New Melones Reservoir: wet, dry, normal wet, normal dry, and critically dry. These water types are described as follows:

- Critically Dry: Less than or equal to 350,000 acre-feet
- Dry: Greater than 350,000 and less than or equal to 676,000 acre-feet
- Normal Dry: Greater than 676,000 and less than 1,050,000 acre-feet
- Normal Wet: Greater than or equal to 1,050,000 and less than 1,585,000 acre-feet
- Wet: Greater than or equal to 1,585,000-acre feet

These classifications are determined on or about February 10 annually, and operations must coincide with measures specific to that WY type until the following month's CDWR forecast is published in March, April, and May. The WY type in May would apply until the February forecast of the following year.

Minimum Instream Flow Measure

PG&E must provide a MIF as measured at the USGS Gage No. 11298000 SFSR near Long Barn, California, downstream of Lyons Dam. The MIF must comply with monthly levels established for each WY type, with a minimum of 5 cfs required in all months during critically dry WYs, and during summer months of dry WYs.

In the event that the Lyons Reservoir storage and the Proposed Project inflows into the Lyons Reservoir after the end-of-spill (from both natural and regulated flow) are not sufficient to meet projected water demand and MIF, a water shortage period is projected. PG&E must then consult with TUD and all resource agencies to determine how best to address the water shortage. After these consultations, a request for a variance from this (and other related) measure from the USFS, State Water Board, and FERC could be filed if necessary.

Ramping Rate Measure

Ramping rates would be implemented based on PG&E's ability to control flows, flow range, and end-of-spill dates. Stream discharge measurements, such as MIF, would be measured at the USGS Gage No. 11298000 on the SFSR downstream of Lyons Dam. The ramping rate requirement pertains only to controlled flows, not spill conditions. Final ramping rates are still in negotiations between PG&E and the relevant agencies. PG&E would limit the maximum rate of change downstream of Lyons Dam so that it would not exceed 50 percent of the existing flow per hour at PG&E Gage S-51. PG&E would implement ramping rates under the following conditions:

1. Standard ramping rates are required during controlled flow conditions which are in effect when the water surface elevation in Lyons Reservoir drops to six inches or more below the flashboards at Lyons Dam, when inflow to Lyons Reservoir is less than 200 cfs (at PG&E Gage S-83), and PG&E's best available forecast indicates inflows would not cause Lyons Dam to go back into spill over the next 10-day period.
2. The standard ramping rate may be temporarily modified if required by operating emergencies or conditions beyond the control of PG&E.

3. The ramping rate may also be temporarily modified upon agreement with the Licensee, USFS and State Water Board (if this occurs, PG&E would notify FERC within 10 days).
4. Standard ramping rate requirements would not apply when performing required safety testing of the Lyons Dam gate facilities.

End-of-Spill Ramping Rate Plan

Within two years of License issuance, PG&E in consultation with the USFWS, CDFW, State Water Board, and other stakeholders, would develop an EOS Plan for the SFSR that would entail development and implementation of initial EOS ramping rate requirements; an early assessment period to evaluate operational, aquatic habitat, and water supply effects; a process to modify initial EOS requirements; and a process for periodic evaluation of the EOS ramping rate schedule throughout the term of the license.

Main Tuolumne Canal Spill Channel Measure

Under the Proposed Project, beginning in the first year of the new license, a Spill Channel Erosion Evaluation and Mitigation Plan would be developed with agencies to describe current operational procedures and determine whether spill operations are causing accelerated erosion or adverse effects to water quality.

3.10.2 Analysis

- a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

No impact. No changes are proposed to the infrastructure of the water delivery system. Changes to MIF requirements, designation of WY types, ramping rates, and emergency procedures under the Proposed Action are small and would not result in significant potential impacts. Water temperature may affect the distribution and composition of the fish community, FYLFs, and other aquatic resources in the SFSR bypass reach or the Lyons Reservoir. The Proposed Project does not affect water temperatures in the full bypass reach, though studies performed during relicensing confirmed that the area downstream of Lyons Dam to the South Fork Road Bridge (approximately two miles) was affected by changes in water temperature for approximately one month after the end of spring runoff (PG&E 2019). With the terms and conditions of the water quality certification, the Proposed Project would not violate any current water quality standards.

- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Proposed Project may impede sustainable groundwater management of the basin?

Less than Significant Impact. No changes are proposed to the infrastructure of the water delivery system, and changes to MIF requirements, designation of WY types, ramping rates, and emergency procedures under the Proposed Action would not interfere with groundwater recharge as compared to current conditions. Under conditions of repeated critically dry WYs or if the Lyons Reservoir storage and inflows into the Lyons Reservoir after end-of spill (from both natural and regulated flow) are not sufficient to meet projected water demand and the MIF, a water shortage period would be projected which may result in potential impacts to groundwater supplies. In the case of such water-shortages, PG&E must consult with TUD and all resource agencies to determine how to address the water shortage and implications for aquatic resources, water delivery, recreation, and other water uses.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
- i. Result in substantial erosion or siltation on- or off-site.
 - ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
 - iii. 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
 - iv. Impede or redirect flood flows?

No impact. No changes are proposed to the infrastructure of the water delivery system. Changes to MIF requirements, designation of WY types, ramping rates, and emergency procedures under the Proposed Action would not result in significant potential impacts. There are no planned changes in drainage, course of streams, bypasses, channels, or other infrastructure of water delivery, and no substantial addition of impervious surfaces.

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

No Impact. The Proposed Project is not located in a flood hazard, tsunami, or seiche zones, and therefore would not risk release of pollutants due to Proposed Project inundation.

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

No Impact. The Proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.10.3 Mitigation Measures

None required.

3.10.4 Mitigation Monitoring

None required.

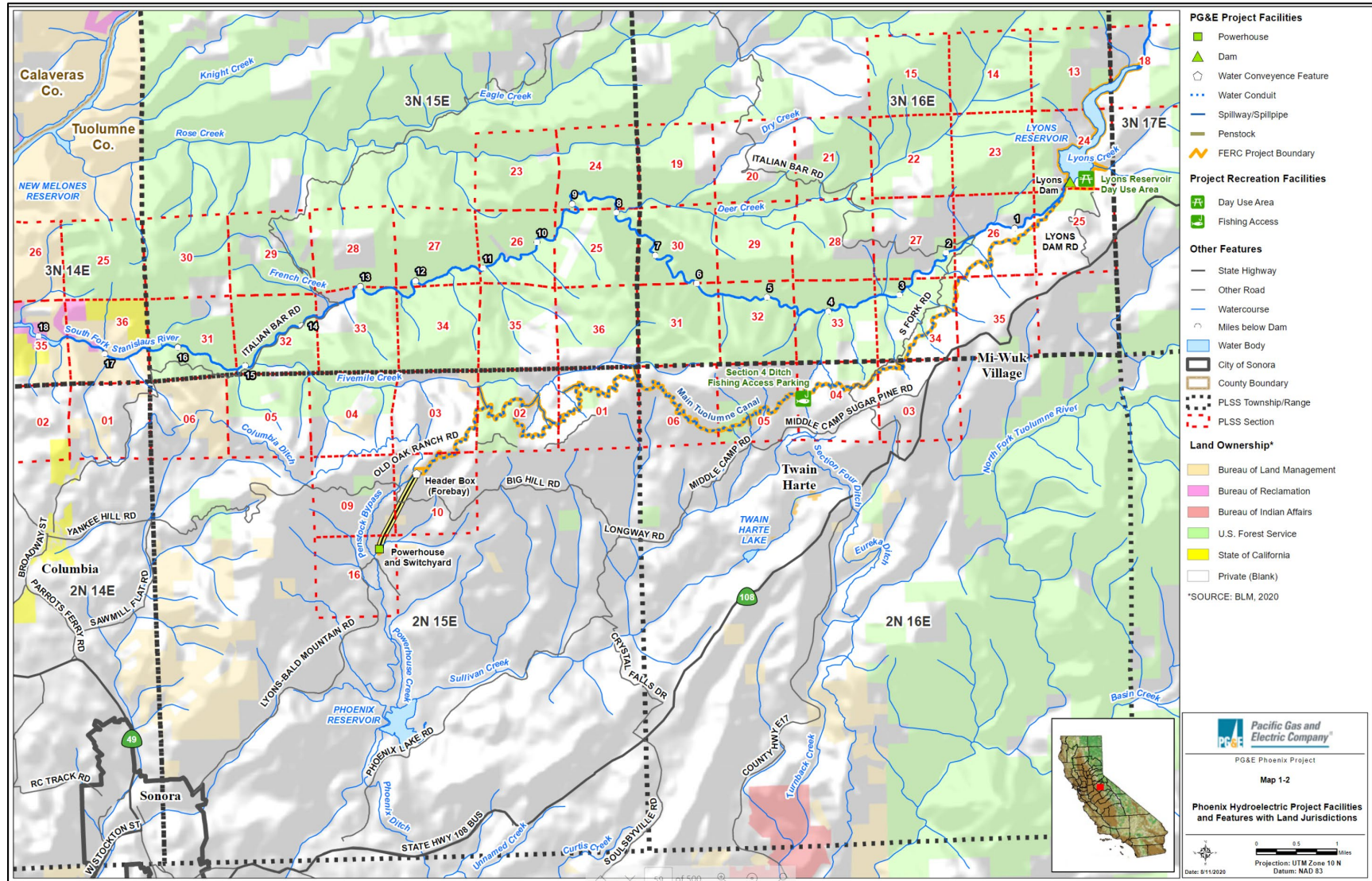
3.11 Land Use and Planning

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

3.11.1 Environmental Setting

The Proposed Project facilities are situated in a forested region of Tuolumne County, California. State Highway 108 provides the primary vehicle access through the Proposed Project Area. Secondary and unimproved roads provide access to Proposed Project facilities, recreational opportunities, and private and residential properties. The Proposed Project Area is zoned for timber production, open space, parks, and recreation, agricultural, public, and rural residential (County of Tuolumne 2021b).

Most facilities associated with the Proposed Project are situated on lands owned by PG&E, Sierra Pacific Industries, and other private property owners (Figure 3.11.1-1). The Proposed Project occupies a small parcel of land belonging to the SNF near the upper pond of Lyons Reservoir. Approximately two- and one-half miles of the MTC and less than one mile of Proposed Project roads either cross NFS parcels or intersect NFS lands managed by the Mi-Wuk Ranger District.



Source: PG&E 2020a

Figure 3.11.1-1 Existing Phoenix Project Facilities and Features with Land Use Jurisdictions.

3.11.2 Analysis

- a) Would the Proposed Project physically divide an established community?

No impact. The Proposed Project does not include any revisions to land use codes or established communities.

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

No impact. The Proposed Project would not cause a significant potential environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.11.3 Mitigation Measures

None required.

3.11.4 Mitigation Monitoring

None required.

3.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.1 Environmental Setting

The main mineral commodity in the vicinity of the Proposed Project is gold, with a few occurrences of sand/gravel, manganese, and uranium (PG&E 2020a). Historically important mineral resources were gold, carbonate rock, and construction aggregate. In Tuolumne County, deposits of gold and silver are bounded by the Melones fault zone and the Calaveras-Shoo Fly Thrust; a small amount extends toward Mi-Wuk Village. In 2015, there were 20 gold producing extraction sites within one mile of the Proposed Project Boundary, one producer of sand and gravel for construction, and one producer of uranium (PG&E 2017).

The state of California classifies land into mineral resource zones (MRZ) based on the inferred or known mineral resource potential of that land (CDC 2019b). The MRZ classifications indicate where significant mineral resources occur or are likely to occur. The California Geological Survey prepares maps and reports describing the mineral classification of an area. There are six MRZ classifications (CDC 1997):

- MRZ-1: Areas with little or no potential for significant mineral resources

- MRZ-2a: Areas with significant measured or indicated reserves
- MRZ-2b: Areas with significant inferred mineral resources
- MRZ-3a: Areas with known mineral occurrence whose significance is undetermined
- MRZ-3b: Areas of inferred mineral occurrence whose significance is undetermined
- MRZ-4: Areas of no known mineral occurrence

The 1997 report completed for Tuolumne County was reviewed for the Proposed Project Area (CDC 1997). The Proposed Project Area is classified as MRZ-4 (cr-28) for carbonate rock within the Southwestern County area. The Lyons Reservoir, upper portion of the bypass reach, and the MTC are classified as MRZ-4 (pm-33) in the Eastern County area for precious metals (lode gold and silver). The remainder of the Proposed Project Area is classified as MRZ-3a (pm-30) in the Standard Pluton-Twain Harte area or MRZ-3b (pm-32) in the Pocket Belt-East Belt for precious metals (CDC 2019b). The Proposed Project Area is not classified in an MRZ-2 area and is not within a Mineral Preserve Overlay land use designation for Tuolumne County (County of Tuolumne 2021b).

The Managed Resources chapter of the General Plan establishes policies and programs to promote the productivity of the timber and mineral lands within Tuolumne County (TCCRA 2018a). Any new development at the Proposed Project would be required to meet the goals of the General Plan and include:

- Goal 7B: Support existing and intermittently operating, and promote new, commercial mining operations within areas suitable for mineral extraction when compatible with adjacent land uses
- Goal 7C: Conserve [Tuolumne] County's mineral resources for future use by encouraging well-planned, compatible uses in and adjacent to significant mineral lands and by reclaiming lands that have been disturbed by mining activities
- Policy 7.C.1: Protect lands classified as significant MRZ-2 by the State Department of Conservation Division of Mines and Geology, and meeting the criteria established in the General Plan for MPZ overlay, from conflicts, such as incompatible development on surrounding land, which might prevent future mining activities

3.12.2 Analysis

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

No Impact. The Proposed Project would not result in the loss or availability of a known mineral resource.

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

No Impact. The Proposed Project would not result in the loss or availability of a locally-important mineral recovery site.

3.12.3 Mitigation Measures

None required.

3.12.4 Mitigation Monitoring

None required.

3.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting

The Proposed Project is in a rural, mountainous area with limited development. The Proposed Project Area is zoned for timber production, open space, parks, and recreation, agricultural, public, and rural residential (County of Tuolumne 2021b). Ambient noise in Tuolumne County originates from traffic, commercial and industrial uses (e.g., mining, timberland), agricultural uses, railroads, and aircraft (TCCRA 2018b).

Chapter 5 of the General Plan includes a component for evaluating the noise level of projects and development within the county. The purpose of addressing noise in the General Plan is to minimize the potential for noise conflicts from development within the county and includes several policies and programs intended to preserve the environment and protect sensitive land use (TCRRA 2018a). Noise exposure thresholds for transportation, stationary noise sources, and for cumulative increases in noise for Tuolumne County have been developed and are presented in the General Plan. The California Government Code and Tuolumne County identifies the following noise-sensitive land uses (e.g., sensitive receptors): residential development, schools, hospitals, convalescent homes, churches, and libraries (TCCRA 2018b).

Relevant goals of the General Plan Noise component include:

- Goal 5A: Protect the economic base of Tuolumne County and preserve the tranquility of residential areas by minimizing potential conflicts between transportation and stationary noise sources and noise sensitive land uses.
 - Implementation Program 5.A.a: Evaluate the need of proponents of new development of noise-sensitive land uses proposed adjacent to existing transportation or other noise sources to incorporate noise reduction techniques so that noise levels at the new development are consistent with the exposure threshold standards in the General Plan.
 - Policy 5.A.5: Require that construction activity and potential temporary construction impacts do not expose existing noise-sensitive land uses to excessive noise levels. Require all new construction activities to implement all feasible noise-reducing measures as necessary to limit construction noise exposure at receiving occupied land uses to within acceptable County noise levels identified in the General Plan.
 - Implementation Programs 5.A.e: The [Tuolumne] County shall ensure that, where residences or other noise sensitive uses are located within 1,900 feet of construction sites, appropriate measures shall be implemented to limit noise exposure from construction. Specific

techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise

Two airports are managed by the Tuolumne County Airports Department (County of Tuolumne 2021c). Land use in the vicinity (within two to three miles) of the two airports is described by the Tuolumne County Airport Land Use Compatibility Plan (Shutt Muen Associates 2003). Neither airport is in the vicinity of the Proposed Project. The Columbia Airport is approximately 14 miles southwest of Lyons Reservoir, while the Pine Mountain Lake Airport is approximately 16 miles south of the Lyons Reservoir and is a public use and residential use airport (TCCRA 2018b).

3.13.2 Analysis

- a) Would the Proposed Project result in the 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?

Less than Significant Impact. Under the Proposed Project, there would be no new permanent increases in the ambient noise levels above the existing conditions. Planned construction and improvements at the recreation sites as part of the Proposed Project may produce temporary increases in ambient noise levels. The recreation construction activities are anticipated to last for six weeks (temporary) and would occur during daytime hours (7 AM to 4 PM). Potential temporary sources of noise may include motor or construction vehicles; grading, site preparation, or paving activities; and construction equipment (e.g., backhoe, hand power tools, cement mixer or truck). Noise levels would fluctuate depending on the type of equipment and duration of use. PG&E uses current and up-to-date equipment with noise-reduction components and would implement all appropriate noise reduction measures in compliance with the General Plan.

- b) Would the Proposed Project result in the generation of excessive ground-borne vibration or ground-borne noise levels?

Less than Significant Impact. The use of heavy construction equipment may produce ground vibrations that spread through the ground and dissipate in strength with increasing distance from the source (FTA 2018). The levels of vibration are dependent upon the type of equipment used. Construction would

not occur in the vicinity of any noise sensitive land uses and is considered to be short term and temporary in nature.

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

No Impact. The Proposed Project is not located within the vicinity of a private airstrip or land use plan or within two miles of a public airport.

3.13.3 Mitigation Measures

None required.

3.13.4 Mitigation Monitoring

None required.

3.14 Population and Housing

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

3.14.1 Environmental Setting

The Proposed Project is located in Tuolumne County, which is rural in character (PG&E 2021b). According to U.S. Census Bureau estimates, Tuolumne County's population was 54,478 in 2019, which was a negative 1.6 percent change since the 2010 census. There were 31,700 total housing units in the county, and 22,505 total households (US Census 2019a). The closest communities to the Proposed Project are the small towns of Sugar Pine, Sierra Village, Mi-Wuk Village, Twain Harte, and Long Barn. The largest community and only incorporated city in Tuolumne County is Sonora, with a population of 4,871 (City of Sonora 2020).

Private land located within or outside the FERC Proposed Project Boundary is subject to the General Plan. USFS land, whether inside or outside the FERC Proposed Project Boundary, is subject to the management directives contained in the Stanislaus National Forest Plan (PG&E 2021b).

Existing facilities associated with the Proposed Project are currently located on predominantly undeveloped lands, with no on-site dwelling units. The Proposed Project maintenance and operation facilities are served by existing infrastructure, including water, sewer, access roads, and electricity (PG&E 2021b).

3.14.2 Analysis

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

No impact. The Proposed Project does not include the development of any new dwelling units or businesses. The Proposed Project activities to expand the parking facilities at the Section 4 Ditch fishing site would not extend existing roads or potentially impact other infrastructure in the vicinity of the MTC. The Proposed enhancements would make the Day Use Area ADA compliant, and along with other improvements would not extend existing roads or potentially impact other infrastructure in the vicinity of Lyons Reservoir or Dam. Any increases in visitation to either the Section 4 Ditch fishing site or the Day Use Area would be temporary in nature and limited to daylight hours. Additionally, due to the rural character of Tuolumne County and the remoteness of the Section 4 Ditch fishing site and Day Use facilities from major population centers, the Proposed Project is unlikely to result in permanent population growth to the surrounding communities.

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

No impact. There are no dwelling units onsite at the Proposed Project. The construction or replacement of housing elsewhere would not be required as a result of the Proposed Project.

3.14.3 Mitigation Measures

None required.

3.14.4 Mitigation Monitoring

None required.

3.15 Public Services

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:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Environmental Setting

Fire Protection

Fire protection services are provided by the Tuolumne County Fire Department with cooperation from CALFIRE; the SNF Fire and Aviation Management program; and PG&E's fire prevention measures. The entire Proposed Project Area falls under the firefighting jurisdiction of CALFIRE's Tuolumne-Calaveras Unit. The Tuolumne-Calaveras Unit maintains 16 fire stations; Twain Harte Fire Station is the closest fire station to the Proposed Project (PG&E 2021b). The Tuolumne-Calaveras Unit boundaries encompass NFS land.

Police Protection

Law enforcement services in the unincorporated portions of Tuolumne County are provided by the Tuolumne County Sheriff's Office (TCSO). The nearest station to both Lyons Dam and the Phoenix Powerhouse is the TCSO, 16 miles southwest of Lyons Reservoir, and approximately seven miles west of Phoenix Reservoir. The TCSO employs 61 full-time sworn officers. The TCSO Policy Manual requires that a minimum of four deputies are on duty at any time (TCSO 2021).

The California Highway Patrol (CHP) provides additional enforcement along state highways and county roadways and offers other services as needed to support the safety of residents of Tuolumne County (County of Tuolumne 2020a). The nearest CHP office to the Phoenix Powerhouse is located in Jamestown, California, 20.5 miles southwest of Lyons Reservoir.

Schools

The Lyons Dam and Reservoir are located in the Summerville Union High School District (Summerville District). There are four schools in the Summerville District: Mountain (Pinecrest) High School; Long Barn/Cold Springs High; South Fork High School; and Twain Harte Elementary. With the exception of Twain Harte Elementary, all schools in the Summerville District are classified as necessary small schools. Twain Harte Elementary is classified as kindergarten through eighth grade. Long Barn/Cold Springs High and South Fork High School are the two closest schools to the Lyons Dam and Reservoir (County of Tuolumne 2021b).

The Phoenix Powerhouse is located in the Sonora Union High School District (Sonora Union District). The Sonora Union District has a higher population density compared to the Summerville District, and therefore, a higher number of educational facilities. Facilities include three necessary small schools, seven kindergarten through eighth grade schools, two high schools, one community college, one preschool, two elementary through high school facilities, and one adult education facility. The closest schools to the Phoenix Powerhouse are Gold Rush Charter School (kindergarten through eighth grade, and high school) and Mountain Oaks Charter School (elementary through high school) (County of Tuolumne 2021b).

Parks

The General Plan designates most of the area surrounding Lyons Reservoir as the following land uses: parks and recreation, open space, timber production zone, and public land use (County of Tuolumne 2018c). Land designated as parks and recreation and open space dominate the area surrounding the dam and the south end of the reservoir. At the north end of the reservoir, most of the land is designated as timber production zone. The upper portion of the MTC crosses land primarily designed as timber production zone and public land use, while the middle and lower portions of the MTC cross land with a variety of mixed residential and agricultural use designations. The land in the immediate vicinity of the Phoenix Powerhouse is designated as public land use (County of Tuolumne 2021b).

Much of the lands surrounding Lyons Reservoir are USFS lands managed by the SNF. USFS lands border the reservoir directly only in one small section on the north side of the upper end of the reservoir. Approximately 3.4 miles of the MTC crosses over parcels of USFS lands. A substantial percentage of the regional recreation use takes place on lands under SNF management, primarily associated with dispersed recreation as opposed to recreation in developed park facilities (PG&E 2017).

There are no developed recreation facilities in the vicinity of the Phoenix Powerhouse or MTC, and the facilities are not visible from any major roadway or residence. Yosemite National Park is located to the east of the Proposed Project, though not within the Proposed Project Boundary.

Other Public Facilities

Lyons Dam and Lyons Reservoir are located in a valley surrounded primarily by undeveloped forested hillslopes. The drainage from the dam to the Phoenix Powerhouse is narrow and is located in rugged terrain with minimal access roads. Ownership of lands surrounding the Proposed Project are a mixture of federal, state, and private holdings (PG&E 2017). The small town of Mi-Wuk Village is located approximately four miles by car from Lyons Reservoir. Public facilities available in Mi-Wuk Village include lodging, food services, a post office, and a church. There are no public facilities in the vicinity of the Phoenix Powerhouse, although the towns of Sonora and East Sonora are approximately six miles to the west. Public facilities to be found in Sonora include medical facilities, food services, lodging, schools, government buildings, and places of worship.

3.15.2 Analysis

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

a) Fire Protection?

No Impact. No new facilities or substantial modification of existing facilities are considered for the Proposed Project. Construction equipment and other machinery used in the expansion of the Section 4 Ditch fishing site parking access, and at the Day Use Area, have the potential to emit sparks which could lead to fire. However, as discussed in Section 3.9, *Hazards and Hazardous Waste* and Section 3.20 *Wildfire*, PG&E implements fire protection and

prevention standards at its facilities, including the use of spark arrestors on all vehicles and other motorized equipment. Neighboring lands are either under the jurisdiction of USFS fire management, or state or local fire departments.

b) Police Protection?

No Impact. No new facilities or substantial modification of existing facilities are considered under the Proposed Project. Neighboring federal lands are under the jurisdiction of the USFS or BLM. Crime on state lands is managed by the TCSO and the CHP.

c) Schools?

No Impact. There are no schools within the Proposed Project Boundary, nor within the immediate vicinity of the Proposed Project or any Phoenix Project facilities.

d) Parks?

No Impact. There are no parks within the Proposed Project Boundary, nor within the immediate vicinity of the Proposed Project or any Phoenix Project facilities.

e) Other public facilities?

No Impact. There are no other public facilities located within or near the Proposed Project. The nearest other public facilities are located in the small town of Mi-Wuk Village, approximately four miles southwest of Lyons Dam, and the cities of Sonora and East Sonora, approximately six miles to the west of the Phoenix Powerhouse.

3.15.3 Mitigation Measures

None required.

3.15.4 Mitigation Monitoring

None required.

3.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.16.1 Environmental Setting

There are a myriad of recreational opportunities available to the public in Tuolumne County within the Stanislaus National Forest, Yosemite National Park, various state parks and other state and federal lands managed by the Bureau of Reclamation and BLM. Community-based recreation districts including the Tuolumne County Recreation Department also provide recreational opportunities within Tuolumne County which operates and maintains approximately 350 acres of parks.

There are two recreational facilities located within the Proposed Project Boundary:

1. Day Use Area—a developed area at the southeast end of the Lyons Reservoir which provides 15 parking spaces, trash receptacles, picnic facilities, potable water, and vault toilets.
2. Section 4 Ditch Fishing Access Parking—a small parking lot adjacent to Section 4 of the MTC, maintained by PG&E to facilitate fishing access near the town of Twain Harte. The parking area is easily accessible from State Highway 108.

3.16.2 Analysis

Under the Proposed Project, both recreational facilities would be enhanced.

- a) Would the Proposed 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?

No Impact. The Day Use Area would be enhanced to bring the recreation facilities up to current accessibility standards, including development of an accessible picnic site. Other amenities to be improved include restroom landing, water faucets, trash disposal and designated parking areas. Development of additional overflow parking for high-use days is included in the Proposed Project as well. These enhancements would obviate any increased deterioration of the facility due to increased use (PG&E 2020a).

The Section 4 Ditch parking access area would be enhanced to meet current accessibility standards including provision of disabled parking and accessible fishing along the MTC. Further improvements would include a level concrete landing area adjacent to the existing fencing and an accessible route from the disabled parking stall to the level concrete landing area (PG&E 2020a).

- b) Does the Proposed Project include recreational facilities or require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment?

Less Than Significant Impact. Enhancements to existing recreational facilities under the Proposed Project include minor structure replacement and ground surface leveling in an area of high human use and does not represent any adverse physical effect on the environment. Construction activities associated with these enhancements would be short-term (six weeks) and temporary in nature. Any land clearing or additional impermeable surfaces are considered to be less than significant.

3.16.3 Mitigation Measures

None required.

3.16.4 Mitigation Monitoring

None required.

3.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.17.1 Environmental Setting

Tuolumne County residents' primary mode of transportation is by vehicle (U.S. Census Bureau 2019b). There are many recreation trails for hiking and biking in the region.

However, many of the small communities within the county lack safe paths and bikeways to provide connections within or between communities (County of Tuolumne 2020b).

Public transit in the county is provided by Tuolumne County Transit (TCT) and the Yosemite Area Regional Transportation System. TCT regularly serves five fixed routes, with the option to Dial-a-Ride during the week (TCT 2021).

State Highway 108 provides the primary vehicle access through the area. Lyons Dam Road provides the primary access to Lyons Reservoir from State Highway 108, and the powerhouse is accessible via Lyons Bald Mountain Road. Numerous secondary and unimproved roads provide access to the Proposed Project facilities as well as neighboring private and residential properties (PG&E 2017). The main access roads to Lyons Dam, the Phoenix Powerhouse, and associated facilities are maintained by PG&E and are inaccessible to the public (PG&E 2021b). Access to the Section 4 Ditch fishing site along the MTC is maintained by PG&E and is easily accessible from State Highway 108 (PG&E 2021b). Access to the Day Use Area is available via a two-mile dirt access road off State Highway 108 (Sonora-Central 2014). Regularly served TCT stops are clustered primarily around the city of Sonora, and the communities of Columbia, Jamestown, and Twain Harte. Dial-a-Ride and less regular service is available further up State Highway 108 to the community of Pinecrest (TCT 2021).

3.17.2 Analysis

- a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

No Impact. The Proposed Project is located in Tuolumne County, which is rural in nature. The Proposed Project is not in conflict with public and regional transit systems nor roadways, bicycle and/or pedestrian trails.

- b) Would the Proposed Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?

Less Than Significant Impact. CEQA Guidelines Section 15064.3, subdivision (b) criteria for analyzing potential transportation impacts include:

Land Use: Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant potential impact. Generally, projects within one-half 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 potential transportation impact. Projects that decrease vehicle miles traveled in

the project area compared to existing conditions should be presumed to have a less than significant potential transportation impact.

Transportation Projects: Transportation projects that reduce, or have no potential impact on, vehicle miles traveled should be presumed to cause a less than significant potential transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of potential transportation impact consistent with CEQA and other applicable requirements. To the extent that such potential impacts have already been adequately addressed at a programmatic level, such as in a Regional Transportation Plan EIR, a lead agency may tier from that analysis as provided in CEQA Section 15152.

Qualitative Analysis: If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

Methodology: A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in CEQA Section 15151 would apply to the analysis described in this section.

The Proposed Project is not within one-half mile of an existing major transit stop. Visitation to the Day Use Area and the Section 4 Ditch fishing site by the public occurs primarily by vehicle travel. The Proposed Project involves improving the parking areas at both sites to improve accessibility.

The construction of additional parking spaces and ADA compliant facilities is expected to improve access for existing visitors. An increase in the number of vehicle miles traveled by visitors to the facilities is not anticipated. Due to its remote location, personal vehicle transportation is the most feasible option for most visitors who travel to the Day Use Area and the Section 4 Ditch access site.

For this reason, it is assumed that the Proposed Project would not increase vehicle miles traveled.

- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The Proposed Project includes improving and expanding the parking facilities at the Section 4 Ditch fishing site and adding ADA compliant facilities at the Day Use Area. Preliminary designs of the expansion do not include sharp curves or dangerous intersections.

- d) Result in inadequate emergency access?

Less Than Significant Impact. The construction work at the Day Use Area and the Section 4 Ditch fishing site would be temporary in nature and limited in scope. Both sites are located several miles from any population centers, and the access roads are lightly to moderately trafficked. Any road closures or blockages would be of short term and temporary in duration. Should an emergency develop, the Proposed Project would not hinder vehicle access.

3.17.3 Mitigation Measures

None required.

3.17.4 Mitigation Monitoring

None Required.

3.18 Tribal and Cultural Resources

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:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

resource to a California
Native American tribe.

3.18.1 Environmental Setting

Historic and cultural resources are protected by state and federal legislation. In 1971, the President's Executive Order No. 11593 required that all federal agencies initiate procedures to preserve and maintain cultural resources by nomination and inclusion on the NRHP. In 1980, the California Governor's office published Executive Order No. B-64-80, which required that state agencies inventory all "significant historic and cultural sites, structures, and objects under their jurisdiction which are over 50 years of age, and which may qualify for listing on the National Register of Historic Places." Section 15064.5, subdivision (b) of the CEQA Guidelines specifies that "projects that cause the physical demolition, destruction, relocation, or alteration of a historical resource or its immediate surroundings such that the significance of the historic resource would be materially impaired" would be found to have a potentially significant impact on the environment. More recently, in 2014, the California Legislature passed AB 52, which added provisions to the PRC regarding the potential impacts analysis on "tribal cultural resources" separately from archaeological resources (Pub. Resources Code, §§ 21074, 21083.09). AB 52 defines tribal cultural resources and requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (Pub. Resources Code, §§ 21080.3.1, 21080.3.2, 21082.3).

PG&E consulted with the Chicken Ranch Rancheria of Me-Wuk Indians of California, Tuolumne Band of Me-Wuk Indians, and the Calaveras Band in 2017 in anticipation of the relicensing for the Phoenix Project. The Calaveras Band did not respond, and the Chicken Ranch Rancheria of Me-Wuk Indians of California indicated they would defer to the Tuolumne Band of Me-Wuk Indians (PG&E 2021c).

To ensure compliance with CEQA, the State Water Board issued a notice, dated December 8, 2020, for informal consultation with responsible and trustee agencies regarding the environmental document, pursuant to CEQA Guidelines Section 15063, subdivision (g). As part of the State Water Board's Tribal Policy, the State Water Board also reached out to additional Tribes not on the AB 52 list for the region that may be interested in the Proposed Project. The purpose of the consultation was to seek input from the agencies responsible for resources affected by the Proposed Project, as well as from the Tribes within the region, and interested members of the community. The State Water Board sought recommendations and supporting information regarding the type of CEQA document to prepare for the Proposed Project.

As defined in AB 52, Tribal-Cultural resources are:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either included or determined to be eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to PRC Section 5024.1, subdivision (c). The lead agency would consider the significance of the resource to a California Native American Tribe when applying the criteria in Section 5024.1, Subdivision (c).
3. A cultural landscape that meets the criteria of PRC Section 21074, Subdivision (a) is also a tribal cultural resource if the landscape is geographically defined in terms of the size and scope.
4. A historical resource, unique archeological resource, or a non-unique archeological resource as defined in the PRC may also be a tribal cultural resource if it meets the criteria of Section 21074, Subdivision (a).

Prehistoric habitation in Tuolumne County began more than 10,000 years ago. The county's Indigenous Peoples, the Central Sierra Me-Wuks, arrived between 2,000 and 600 years ago (County of Tuolumne 2018b). It is estimated that there were 35 pre-1848 villages in Tuolumne County, indicating that the county was a significant residential and resource procurement area for the Central Sierra Me-Wuk (County of Tuolumne 2018b). Other Native American tribes associated with Tuolumne County include: the Buena Vista Rancheria, Chicken Ranch Rancheria of Me-Wuk, and the Tuolumne Band of Me-Wuk (County of Tuolumne 2018c). Due to the sensitive nature of tribal cultural resources, limited site descriptions, and no site graphics, are presented in this IS report.

3.18.2 Analysis

- a) Would the Proposed 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 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, subdivision (k)?

Less Than Significant Impact. Work associated with the Proposed Project consists of ground disturbance in and around the boundary of an archaeological site, which is eligible for listing in the NRHP under Criterion D, and is also a contributing component to a traditional cultural landscape eligible under Criterion A.

PG&E began a review of cultural-tribal historic properties when it began the relicensing effort for the Proposed Project in 2016. In consultation with the Tuolumne Band of Mu-Wuk Indians, PG&E, on behalf of FERC, determined that while the undertaking itself would allow relatively limited ground disturbance on already-disturbed areas, when previous potential impacts such as construction and operation of the Proposed Project are considered cumulatively, the undertaking would cause adverse effects to an archaeological site, but not to one of the traditional cultural landscapes identified (CSHPO 2021a). However, the Proposed HPMP was developed in consultation with the Tuolumne Band of Me-Wuk Indians, which proposes to use archeological excavation methods to remove soils and directs data recovery investigations, analysis of cultural material recovered, and drafting of a technical report documenting the results (CSHPO 2021a). The Proposed HPMP builds on a series of cultural resource technical studies that identified historic properties in the Proposed Project Area in compliance with Section 106 of the NHPA (PG&E 2021c).

- b) 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, or 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 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 section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact. PG&E worked in consultation with the Tuolumne Band of Me-Wuk Indians to identify tribal cultural resources in the Proposed Project Area. The California SHPO concurred with PG&E's identification of both traditional cultural landscapes identified. The California SHPO noted that both areas possessed strong "integrity of feeling, association, setting, materials, and location" (CSHPO 2020).

The Proposed Project may include ground disturbance in and around traditional cultural landscapes and archeological sites, however, with implementation of the HPMP, the potential impact of the Proposed Project is anticipated to be less than significant.

3.18.3 Mitigation Measures

None required.

3.18.4 Mitigation Monitoring

None required.

3.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
provider's existing commitments?				
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.19.1 Environmental Setting

The Phoenix Powerhouse and Lyons Dam are within PG&E's electric service area (PG&E 2014). Water use for human consumption, facilities maintenance and operation, and other domestic uses at both facilities comes from the TUD. Since 1983, following a purchase agreement, PG&E has delivered water from the Phoenix Project to TUD from multiple locations along the MTC, and downstream of the Phoenix Powerhouse. As a result, the Proposed Project provides a significant portion of TUD's water supply (PG&E 2021b). Outside of necessary MIF releases into the South Fork, all water diverted to the MTC is delivered to TUD via the Columbia Ditch or at Phoenix Reservoir (PG&E 2021b). A treatment plant, storage tank, hydro system, and raw reservoir are located west of the Phoenix Powerhouse near the intersection of Shale Rock Road and Big Hill Road. TUD operates a larger wastewater treatment facility in the city of Sonora (TUD 2016).

Water for human consumption on national forest lands in the SNF is subject to the objectives and standards in the USFS Manual (FSM) Chapter 7420, which requires that USFS water systems must be operated in compliance with the requirements of the Safe Drinking Water Act, as amended (42 USC 7401 et seq.); the Primacy Agency (the federal agency with oversight responsibility) requirements; and the FSM. Where these objectives cannot be met, the USFS would not make water available for human use and consumption (USFS 2010).

PG&E's service area for electricity covers all of Tuolumne County (PG&E 2014). There is no natural gas consumption in Tuolumne County (CEC 2021d). Cellular telecommunication service is widespread in most parts of Tuolumne County, including near both the Phoenix Powerhouse and Lyons Reservoir, although coverage may be sporadic and ultimately dissipate as one travels further into the SNF east of the small town of Strawberry (UpPhone 2021).

Additionally, USFS FSM Chapter 7460 describes standards and guidelines related to solid waste generation and disposal on USFS lands (USFS 2000).

3.19.2 Analysis

Would the Proposed Project:

- a) Require or result in the relocation or construction of new or expanded water wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The Proposed Project would not require or result in the relocation or construction of new or expanded wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. The proposed construction and expansion of the parking areas and improvements at the Day Use Area would include additional construction stormwater measures, but these adjustments are assumed to be minimal and temporary in nature and have no potential impact.

- b) Have sufficient water supplies available to serve the Proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

No Impact. PG&E maintains four water rights for the operation and maintenance of the Proposed Project; two included in the current Phoenix Project license, and two dated prior to 1914 (PG&E 2021b). No new facilities or substantial modification of existing facilities are considered under the Proposed Project.

- 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?

No Impact. The Proposed Project would not result in additional projected demand by the wastewater treatment provider that serves the Proposed Project facilities.

- 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?

No Impact. Solid waste generated from the Proposed Project may include construction materials and discarded items from personnel during the course of construction operations. Receptacles for landfill and recycling would be available at construction sites for use by personnel. The amount of waste generated by the Proposed Project is not expected to exceed state or local standards, exceed 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?

No Impact. Waste generated from the Proposed Project would be removed from the construction sites on a weekly basis in compliance with state, local, and federal standards.

3.19.3 Mitigation Measures

None required.

3.19.4 Mitigation Monitoring

None required.

3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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? ☐ ☐ ☒ ☐

3.20.1 Environmental Setting

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property. The Proposed Project is situated in a rural area dominated by dense forests prone to wildfires. Severe fire weather occurs on 35 percent of the days during the fire season in much of Tuolumne County (County of Tuolumne 2018a). Like other parts of California, wildfires have occurred in the Phoenix Project Vicinity. Between 1910 and 2010, 12 wildfires occurred within one mile of a facility associated with the Proposed Project. The largest of these occurred in 1940 and burned 4,149 acres (PG&E 2021b).

In 2018, Tuolumne County compiled an MJHMP that evaluated the county's risk levels for emergencies, such as wildfire. According to the MJHMP, the combination of the county's fire history along with fuels, weather, and topography create a high risk for personal injury and loss of life, and the potential losses of structures and personal property due to wildfire and associated potential risks, such as flooding, landslides, and damaged vegetative structures. The area around the Lyons Dam and the Lyons Reservoir, including the communities of Twain Harte, Mi-Wuk, Sugar Pine, Pinecrest, and Long Barn, and those areas over 3,500 feet in elevation, are classified as "very high" fire risk according to the 2019 Tuolumne County MJHMP due to the prevalence of heavy timber and steep topography. The woodland areas surrounding the Phoenix Powerhouse and along the MTC are classified as "high to very high" for wildfire hazard (County of Tuolumne 2018a).

The existing Phoenix Project license includes measures to prevent and suppress fires on Phoenix Project lands:

- Article 22 – Requires PG&E to do everything reasonable within its power to prevent fires and to make advanced preparation for suppression of fire
- Article 23 – Requires that PG&E shall not object to or prevent the use, by agencies with jurisdiction or persons under permit, of Phoenix Project water for suppression for sanitary and domestic purposes

In accordance with Article 22, measures implemented to reduce fire risk include actively cutting vegetation in proximity to Phoenix Project facilities. All fire prevention measures currently being implemented follow relevant state laws and regulations (PG&E 2021a).

All PG&E company vehicles are equipped with basic fire suppression equipment, as are many of the existing and Proposed Project facilities. Fire suppression equipment includes fire extinguishers, hand tools, Pulaski tools, mattocks, and McLeod rakes. Additional equipment for special projects described in fire plans are developed in coordination with the USFS. Furthermore, motorized equipment and vehicles have spark arrestors preventing unintended fire ignition (PG&E 2021a).

Fire prevention and fuels management in the Proposed Project Vicinity are the responsibility of the USFS, CALFIRE, and Tuolumne County. These agencies work cooperatively with the USFS and the NPS to provide wildfire response in Tuolumne County (PG&E 2021a).

Under the Proposed Project, implementation of existing guidelines and standards would continue, while also implementing a proposed Fire Plan. The plan would identify PG&E's fire prevention and suppression responsibilities, specific requirements to be implemented on NFS and BLM lands, access routes, and PG&E's fire suppression resources, including those that would be used by the state and federal agencies in the event of a wildfire (PG&E 2021a).

Lyons Reservoir and the MTC are used by the TUD for water supply as well as a fire suppression resource. In the event of a fire, Lyons Reservoir is used as a dip site, while the MTC connects to the TUD-owned and operated Columbia Ditch, which feeds the CALFIRE Columbia Air Attack Base, located in the town of Columbia (PG&E 2021a).

Proposed Project facilities fall within a DPA, a geographic area that is administratively defined, and for which organized fire suppression activities are formally planned. The Phoenix Powerhouse and facilities are within the CALFIRE DPA, while the Lyons Dam and the Lyons Reservoir are in the USFS DPA. The entire Proposed Project Area is under the firefighting jurisdiction of CALFIRE's Tuolumne-Calaveras Unit. Neighboring federal land is under the firefighting jurisdiction of the SNF (PG&E 2021a).

3.20.2 Analysis

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Regular dam safety monitoring is a FERC requirement and is currently conducted as part of the existing license. The Phoenix Project Emergency Action Plan (EAP) was filed with FERC August 3, 2021, which includes a description of potential evacuation routes and responses to wildfire. The existence of dam safety monitoring, the Proposed Fire Plan, along with fire suppression measures, lessen the likelihood of uncontrolled fires in the vicinity of the Proposed Project.

The proposed construction work at the Day Use Area and the Section 4 Ditch fishing site would be temporary in nature (less than six weeks) and limited in scope. The Day Use Area would be closed for the duration of the construction, approximately four weeks. The Section 4 Ditch fishing site would be closed for one week during construction. Both sites are located several miles from any population centers, and the access roads are lightly to moderately trafficked. Any road closures or blockages would be of limited duration.

- 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?

Less Than Significant Impact. The Proposed Project is situated in a rural area dominated by dense forests and prone to wildfires. The area around Lyons Dam and Lyons Reservoir, including the communities of Twain Harte, Mi-Wuk, Sugar Pine, Pinecrest, and Long Barn, and those areas over 3,500 feet in elevation, are classified as “very high” fire risk according to the 2018 Tuolumne County MJHMP due to the prevalence of heavy timber and steep topography. The woodland areas surrounding the Phoenix Powerhouse and along the MTC are classified as “high to very high” for wildfire hazard (County of Tuolumne 2018a).

The nature of the geography in the vicinity of the Proposed Project heightens the potential for wildfire risks and associated pollutant concentrations. Construction work, such as the improvements to the Day Use Area and the Section 4 Ditch Fishing Access, have the potential to ignite dry brush or fuel (PG&E 2021a). However, the existing Phoenix Project license contains fire prevention and control measures in Articles 22 and 23 and a proposed Fire Plan to improve wildfire safety measures (PG&E 2021a).

- 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 potential impacts to the environment?

No Impact. The improvements planned at the Day Use Area and at the Section 4 Ditch Fishing Site include maintenance to specific existing parking areas and construction of ADA compliant facilities. The new and existing infrastructure at these sites would not require installation or maintenance of additional infrastructure, such as roads, fuel breaks, emergency water sources, power lines, or other utilities which may exacerbate fire risk or may result in temporary or ongoing potential 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?

Less Than Significant Impact. Implementation of the Proposed Project at the Day Use Area and the Section 4 Ditch Fishing Site would not inherently expose people or structures to significant risks as a result of post-fire slope instability or drainage changes. The remainder of the Proposed Project lands, outside of the proposed enhancement areas at each site, would not be potentially impacted by the Proposed Project and therefore, the risk for wildfire, and related post-fire slope instability or drainage changes, is limited to natural causes.

3.20.3 Mitigation Measures

None required.

3.20.4 Mitigation Monitoring

None required.

4.0 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.1 Analysis

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact. Based on review of the FLA, FERC additional information requests, proposed management plans for terrestrial and aquatic species, and other relevant materials posted to the FERC docket, the Proposed Project has potential to reduce the habitat of a fish or wildlife species, cause changes in population levels, eliminate part of a plant or animal community or restrict the range of some species within the Proposed Project Area. However, as discussed in Section 3.4 *Biological Resources*, and Section 3.10 *Hydrology and Water Quality*, the implementation of planned monitoring studies, management plans, and measures included in the Proposed Project are aimed at minimizing these potential impacts to biological resources and would result in less than significant potential impacts.

Cultural resource studies to date have identified 35 historic properties within the APE of the Proposed Project: 24 archeological, 9 built environment, and 2 tribal resources. Of these, twenty have not been evaluated, but are treated as historic properties pending evaluation (PG&E 2021c). As discussed in Section 3.5 *Cultural Resources* of this document, the MTC has been identified as eligible for NRHP listing, with concurrence from the California SHPO (CSHPO 2020). The existing CRMP for the Phoenix Project explicitly acknowledges the need to manage the MTC as a living system (PG&E 2021c). Furthermore, as discussed in Section 3.18 *Tribal and Cultural Resources*, several tribal cultural resources have been identified within the Proposed Project APE. Due to the sensitive nature of these resources, identifying features or additional details, including the location of these sites, are not provided in this document. Routine operation and maintenance of the Proposed Project have the potential to impact known and unknown cultural, historic, and archaeological resources. The measures included in the Proposed HPMP, along with existing license requirements regarding cultural and tribal resources, would lessen any potential impact on these resources.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact. Potential cumulative impacts refer to two or more individual potential impacts that, when considered together, are considerable, or that compound or increase other potential environmental impacts (Cal. Code Regs., tit. 14, § 15355). As part of this IS analysis, lists of current and potential projects in the region from PG&E, Tuolumne County, and the USFS were reviewed. Only those projects with formal proposals underway and within the general vicinity of the Proposed Project were considered as part of this analysis.

Granite Thin Project: Tuolumne County, in coordination with the SNF, recently released a Request for Proposals for the Granite Thin Project consisting of approximately 1,556 acres of timber and biomass removal. The Granite Thin Project is located approximately 40 miles from the Proposed Project and includes mechanical thinning and fuels reduction work on those acres. The bid packages listed on the Tuolumne County website include information on erosion control and measures to protect water quality and biological resources. However, as the Granite Thin

Project is still in such early planning phases and the breadth of activities has not yet been defined, it is not evaluated further in this IS.

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

Less than Significant Impact. The Proposed Project is located in an area classified as having a high to very high risk for wildfire (County of Tuolumne, 2018a). As discussed in Section 3.20 *Wildfire* of this document, elements of the Proposed Project, such as construction equipment which may be used at the Day Use site and Section 4 Ditch site, have the potential to ignite dry brush or other fuels. The risk of ignition from construction equipment, PG&E vehicles, and other operating equipment is lessened by implementation of the requirements listed in Articles 22 and 23 of the existing Phoenix Project license. These conditions are also proposed to be included in the new license. Additionally, the Proposed Fire Plan would further diminish these risks. Nonetheless, due to the geography of the Proposed Project Area, there is a heightened risk for indirect substantial adverse effects on human beings caused by the spread of wildfire.

Additionally, Lyons Dam is classified as a High Hazard Dam by FERC and the California Division of Safety of Dams. The high hazard rating is applied based on potential impacts should the dam fail and indicates that a failure is expected to cause the loss of at least one human life (DSOD 2020). This hazard rating is not related to the condition of the dam; the Lyons Dam condition is rated as Satisfactory, which is the highest rating indicating no existing or potential dam safety deficiencies have been recognized (DSOD 2020). This high hazard rating indicates that the Proposed Project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. PG&E has an EAP in place, including updated inundation maps, and regularly participates in dam safety inspections at Phoenix Project facilities.

4.2 Mitigation Measures

No mitigation measures are required for items a), b), or c) at this time.

4.3 Mitigation Monitoring

None required.

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