INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

REMOVAL AND DECOMMISSIONING OF KANAKA POWERHOUSE FOR KANAKA HYDROELECTRIC PROJECT LICENSE SURRENDER

STATE WATER RESOURCES CONTROL BOARD

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

May 2025

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REMOVAL AND DECOMMISSIONING OF KANAKA POWERHOUSE FOR KANAKA HYDROELECTRIC PROJECT LICENSE SURRENDER

Prepared For:

STATE WATER RESOURCES CONTROL BOARD

Prepared By:

PSOMAS

May 2025

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APPENDICES

1.0 ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Removal and Decommissioning of the Kanaka Powerhouse for the Kanaka Hydroelectric Project (FERC Project No. 7242) License Surrender

2. **Lead Agency:** State Water Resources Control Board

3. **Contact Person and Phone Number:** Glenn Hoffman (916) 319-9943

4. **Project Location:** The Proposed Project location is approximately 3.1 miles north of the Census-Designated Place (CDP) of Forbestown.

5. **Project Sponsor's Name and Address:**
   STS Hydropower, LLC c/o Eagle Creek Renewable Energy, LLC
   Melissa Rondou
   Licensing and Compliance Manager
   116 N. State Street P.O. Box 167 Neshkoro, WI 54960

6. **General Plan Designation:** Timber Mountain (TM)

7. **Zoning:** Timber Mountain (TM)

   As defined in the Butte County Municipal Code, the primary purpose of the TM zone is to preserve Butte County's valuable timber resources and to protect both the economic and environmental value of these lands. Standards for the TM zone are intended to support the growing and harvesting of timber, pulp woods, and other forestry products for commercial purposes. Permitted uses include logging, timber processing, crop cultivation, agricultural processing, and the management of forest lands for timber operations and animal grazing. Extractive uses that are generally compatible with forestry operations, including mining and oil and gas extraction, are conditionally permitted in the TM zone.

8. **Description of Project**

STS Hydropower, LLC c/o Eagle Creek Renewable Energy, LLC is proposing the Removal and Decommissioning of the Kanaka Powerhouse for the Kanaka Hydroelectric Project (FERC Project No. 7242) License Surrender (Proposed Project) at the existing Kanaka Hydroelectric Project. The Proposed Project would involve the surrender of the Kanaka Hydroelectric Project's Federal Energy Regulatory Commission (FERC) license by sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace.

9. **Surrounding Land Uses and Setting:**

Land surrounding the Proposed Project Site is also designated as Timber Mountain (TM) by both the County General Plan and Municipal Code.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):**

In addition to the State Water Board water quality certification, other permits or approvals may be required for the Proposed Project and include, but are not limited to:

- United States Army Corps of Engineers (USACE) Clean Water Act section 404 permit.
- FERC approval of the License Surrender
- State Historic Preservation Office (SHPO) consultation under section 106 of the National Historic Preservation Act: concurrence granted on April 18, 2023.

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

Consultation under Assembly Bill (AB) 52 began on July 13, 2023, with letters being sent to the following tribes:

- The Honorable Gene Whitehouse (Tribal Chairperson), for the United Auburn Indian Community
- The Honorable Glenda Nelson (Tribal Chairperson), for the Enterprise Rancheria

Neither of the tribes requested consultation during the 30-day period required pursuant to AB 52.

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 Proposed Project have been made by or agreed to by the Proposed Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the Proposed Project MAY have a "potentially significant" 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
Printed Name	Lead Agency

ACRONYMS

AAQS	*Ambient Air Quality Standards*
AB	*Assembly Bill*
BACMs	*Best Available Control Measures*
BCAG	*Butte County Association of Governments*
BCAQMD	Butte County Air Quality Management District
CalEEMod	*California Emissions Estimator Model*
CalEPA	*California Environmental Protection Agency*
CALFIRE	*California Department of Forestry and Fire Protection*
CAP	*Climate Action Plan*
CAPCOA	*California Air Pollution Control Officers Association*
CARB	*State of California Air Resources Board*
CDFW	*California Department of Fish and Wildlife*
CDP	*Census-Designated Place*
CEQA	*California Environmental Quality Act*
cfs	*Cubic Feet Per Second*
CHRIS	*California Historic Resources Information System*
CH_4	*Methane*
CO	*Carbon Monoxide*
CPUC	*California Public Utilities Commission*
CRHR	*California Register of Historic Places*
c/o	*Care Of*
EIR	*Environmental Impact Report*
EISA	*Energy Independence and Security Act*
EMFAC	*EMissions FACtor*
EO	*Executive Order*
FERC	*Federal Energy Regulatory Commission*
FMMP	*Farmland Mapping and Monitoring Plan*
FPA	*Federal Power Act*
°F	*Degrees Fahrenheit*
GHGs	*Greenhouse Gas Emissions*
GWP	*Global Warming Potential*
HFCs	*Hydrofluorocarbons*
IS	*Initial Study*
KW	*Kilowatts*
kV	*Kilovolt*
lbs	*Pounds*
LOS	*Level of Service*
MLD	*Most Likely Descendant*
MND	*Mitigated Negative Declaration*
MSL	*Mean Sea Level*
$MTCO_2e/yr$	*Metric Tons of Carbon Dioxide Equivalent*
MWHs	*Megawatt Hours*
NAHC	*Native American Heritage Commission*
NIC	*Northeast Information Center*

NOx	*Nitrogen Oxides*
NO_2	*Nitrogen Dioxide*
N_2O	*Nitrous Oxide*
NSVAB	*Northern Sacramento Valley Air Basin*
NSVPA	*North Sacramento Valley Planning Areas*
O_3	*Ozone*
PFCs	*Perfluorocarbons*
P.O.	*Post Office*
PM10	*Particulate Matter with a Diameter of 10 microns or less*
PM2.5	*Particulate Matter with a Diameter of 2.5 microns or less*
ROG	*Reactive Organic Gases*
RPS	*California Renewables Portfolio Standard*
SB	*Senate Bill*
SF_6	*Hexafluoride*
SHPO	*State Historic Preservation Office*
SO_2	*Sulfur Dioxide*
SR	*State Route*
State Water Board	*State Water Resources Control Board*
SVAB	*Sacramento Valley Air Basin*
SWPPP	*Storm Water Pollution Prevention Plan*
Surrender Application	*License Surrender Application for the Kanaka Hydroelectric Project (FERC No. P-7242)*
TACs	*Toxic Air Contaminants*
TM	*Timber Mountain (zoning designation)*
USACE	*United States Army Corps of Engineers*
USEPA	*United States Environmental Protection Agency*
VMT	*Vehicle Miles Traveled*
VOC	*Volatile Organic Compound*
WI	*Wisconsin*
$\mu g/m^3$	*micrograms per cubic meter*

1.1. Organization of this Document

This IS/MND is organized into the following sections:

- Section 1 – *Introduction*: Provides a brief description of the intent and scope of this IS/MND, the public and agency involvement process under CEQA, and the organization of and terminology used in this IS/MND.
- Section 2 – *Project Description and Setting*: Describes the Proposed Project ownership, location, facilities, and background. It also describes the proposed activities to be undertaken as part of the Proposed Project and relevant proposed environmental mitigation measures.
- 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 in Section 3
- Section 5 – *References*: Lists all cited sources used in the development of this IS/MND.
- Section 6 – *List of Preparers:* This section lists all authors who contributed to the development of this IS/MND.

1.2. Introduction

The State Water Resources Control Board (State Water Board) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of STS Hydropower, LLC's (STS) Removal and Decommissioning of the Kanaka Powerhouse for the Kanaka Hydroelectric Project (Federal Energy Regulatory Commission Project No. 7242) License Surrender (Proposed Project) This IS/MND reflects an environmental analysis required by the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) for the State Water Board's issuance of water quality certification for the Proposed Project as proposed by STS. STS filed their Final Surrender Application (Surrender Application) with FERC on September 30, 2022, and subsequently requested water quality certification for the Proposed Project to the State Water Board on May 12, 2023. On April 23, 2024, the State Water Board issued a denial without prejudice of the May 12, 2023, application for water quality certification. On July 15, 2024, STS submitted a new water quality certification application for the Proposed Project.

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 potential significant 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/MND reflects an analysis prepared by the State Water Board, acting in its capacity as the CEQA Lead Agency. This IS/MND determines that the Proposed Project would not have any significant adverse impacts to the environment after mitigation measures are incorporated and thus a Mitigated Negative Declaration (MND) has been prepared.

1.3. Intent and Scope of this Document

This IS/MND is an informational document that provides the State Water Board, other public agencies, interested parties, and the public 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.

1.4. Public Review Process

The CEQA 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.

The CEQA Guidelines (Cal. Code Regs., tit. 14, §§ 15073, 15105, subd. (b)) require that the lead agency designate a period during the IS/MND process when the public and other agencies can provide comments on a potential project's impacts. Accordingly, the State Water Board is circulating this document for a 33-day public and agency review period.

All comments received by the date identified for closure of the public comment period in the Notice of Intent will be considered by the State Water Board during development of the Final IS/MND for the Proposed Project. Comments can be submitted electronically or by mail to:

Email: Glenn.Hoffman@waterboards.ca.gov

or

State Water Resources Control Board
Division of Water Rights – Water Quality Certification Program
Attn: Glenn Hoffmann
P.O. Box 2000
Sacramento, CA 95812-2000

2.0 PROJECT DESCRIPTION AND SETTING

The Kanaka Hydroelectric Project (Hydroelectric Project) is owned and operated by STS Hydropower, LLC. The Hydroelectric Project site is located entirely on private property, along and adjacent to Sucker Run Creek within Butte County, California as depicted in the maps provided as Exhibit 1 and Exhibit 2. The Hydroelectric Project site is located approximately 3.1 miles north of the Census Designated Place (CDP) of Forbestown. The Hydroelectric Project facilities were constructed in 1988 for which the Federal Energy Regulatory Commission (FERC) issued a license on August 15, 1985 that expires on August 1, 2035. The Hydroelectric Project as originally licensed had an installed capacity of 1,200 kilowatts (KW) and on average generated 6969 megawatt hours (MWHs) annually.

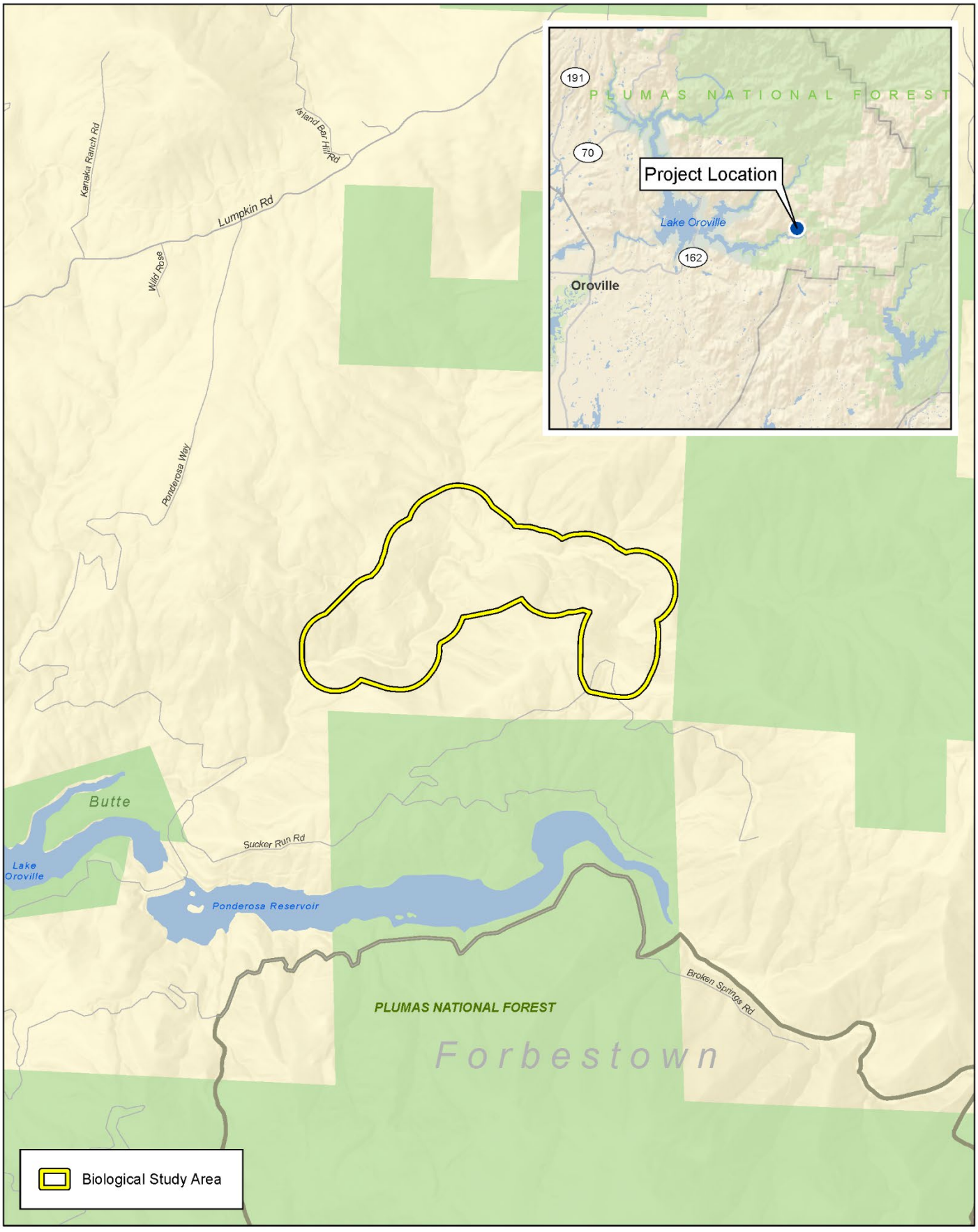
FERC-licensed facilities within the Hydroelectric Project site originally included:

- A 12-foot-high, 36-foot-long concrete diversion structure with a crest elevation of 1,675 feet above mean sea level (msl);
- A 30-inch-diameter, 5,669-foot-long pipeline/penstock;
- A 35-foot by 38-foot powerhouse located at 1,135 feet above msl;
- An approximately 10-foot by 10-foot slab and associated transmission equipment from the substation;
- A single 1,103.24-kilowatt turbine connected to a 1,200-kilowatt generator;
- An approximately 8-foot by 3-foot by 9-inch monitoring weir; and
- Appurtenant facilities.

The FERC License allows STS to operate the Hydroelectric Project between November 1 and June 30 as a run-of-river facility when a variable minimum instream flow release is achieved. Article 21 of the FERC License requires that the licensee release minimum flows from the diversion structure according to the following schedule: from February 1 through April 30, a minimum flow release of 13 cubic feet per second (cfs) or the natural streamflow, whichever is less; from May 1 through June 30, a minimum flow release of 8 cfs or natural streamflow, whichever is less; from July 1 through October 31, natural streamflow; and from November 1 through January 31, a minimum flow release of 5 cfs or natural streamflow, whichever is less.

The Hydroelectric Project was severely damaged by the 2017 Ponderosa Fire and has not generated power since that time. The remains of the 771-foot-long, 12-kilovolt (kV) tap line and associated transmission line and poles were removed during site cleanup activities in May 2022.

The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the existing Hydroelectric Project boundary.



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Local and Regional Vicinity

Exhibit 1

Removal and Decommissioning of Kanaka Powerhouse for Kanaka Hydroelectric Project License Surrender

0 1,000 2,000 Feet

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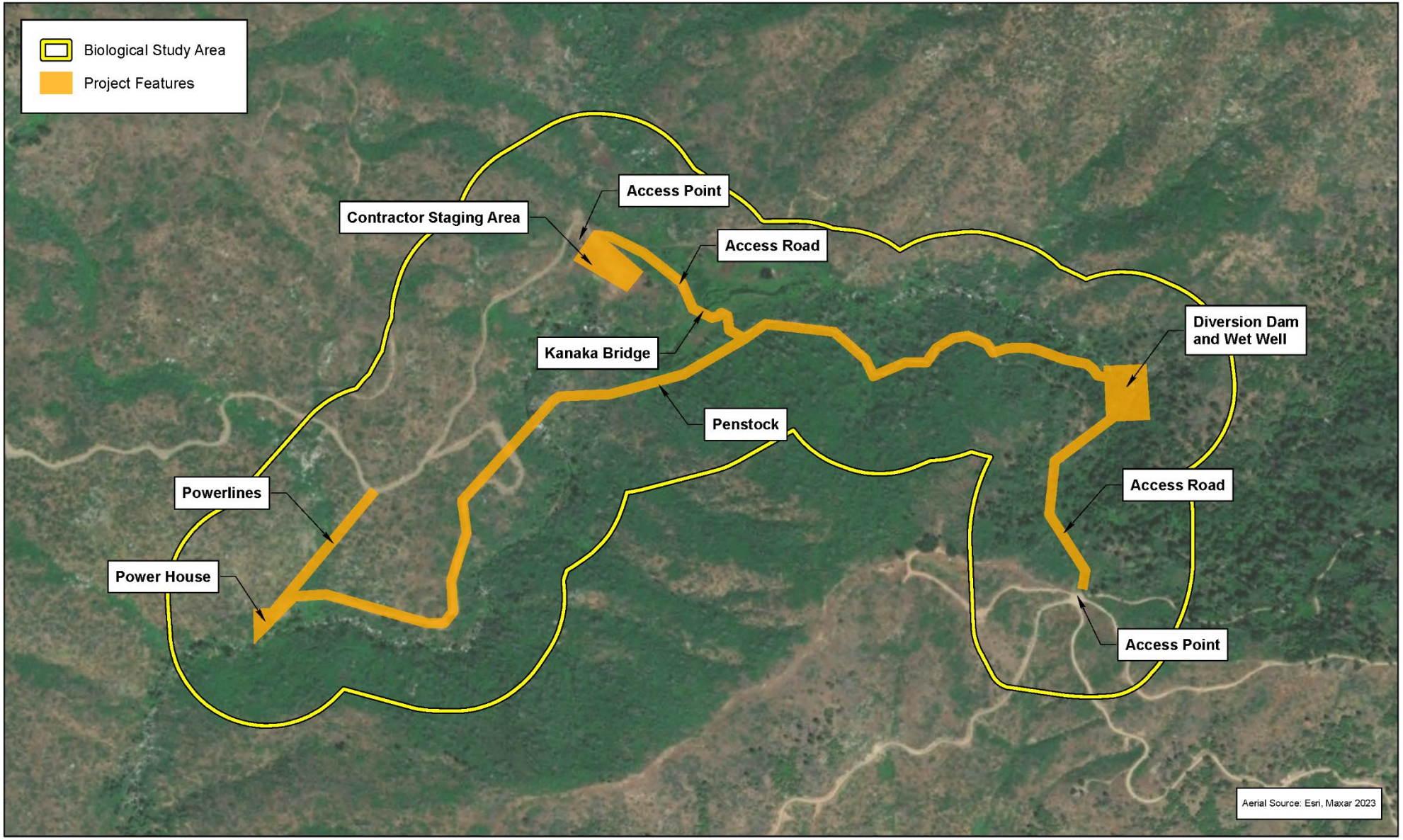

Aerial Photograph

Exhibit 2

Removal and Decommissioning of Kanaka Powerhouse for Kanaka Hydroelectric Project License Surrender

N W E S

0 350 700 Feet

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Sealing the Penstock and Filling the Wet Well

As part of the Proposed Project, the pipe between the diversion dam and the wet well would be sealed with a concrete plug to ensure no potential future water diversion. The concrete plug would be approximately 60 inches long and would completely fill the diameter of the pipe. The flap gate in the wet well that leads to the penstock would be permanently sealed shut.

The outlet of the penstock would be cut with an angle grinder or other appropriate tool and would be capped at the downstream end using a steel cap plate and a concrete plug that would be a minimum of 60 inches long that would be installed behind the cap, permanently discontinuing the connection from the diversion dam to the downstream powerhouse.

The wet well would then be filled with rocks and soil that would be sourced from a previously disturbed upland area of the Proposed Project location.

The Proposed Project would leave the existing privately-owned diversion dam in place with all gates and valves left open to ensure no diversion. Also, the penstock would be left in place once it is permanently sealed to prevent water entry, as described above. With implementation of the Proposed Project, all flow would be released at the dam, primarily through the drain gate.

Powerhouse and Substation Removal

An existing powerhouse approximately 35-foot by 38-foot in size is located in the western portion of the Proposed Project site as depicted in Exhibit 2.

All above-ground materials associated with the powerhouse and substation would be demolished and removed from the Proposed Project site, which would include the foundation and walls, as well as approximately 70 cubic yards of concrete (swell factor not included) along with some of the penstock and the turbine and power generation materials that are located within the powerhouse. This demolition material and equipment would be hauled from the Proposed Project site via Access Road #1 to the Neal Road Landfill. Anchor bolts would be ground off, and interior pits within the powerhouse structure would be filled with a mix of rocks and soils that would be sourced from previously disturbed upland areas of the Proposed Project site. STS reports that it would take approximately 60 cubic yards of fill to fill in the powerhouse interior pits.

Parts of the powerhouse and substation foundations that are below existing ground level would be abandoned in place as a part of the Proposed Project.

Tailrace Abandonment

The existing 341 square foot tailrace channel within the Proposed Project Site would be abandoned in place and would be filled with a mix of approximately 75 cubic yards of

rocks and soil from previously disturbed upland areas of the Proposed Project Site. The tailrace channel would be hand graded to match adjacent areas. Riprap would be added at a 2:1 ratio at the end of the channel to provide for slope protection.

The tailrace abandonment activities would be conducted during the dry season, approximately from August to September, to prevent the need for dewatering and to reduce the potential for impacts on water quality. If necessary, sandbags would be placed around the outlet of the tailrace during construction to better protect the creek from a rain event.

Regrading Around Powerhouse

Following the completion of powerhouse removal and associated tasks, STS would conduct minor fine grading on the road and flat areas around the powerhouse (only) into a stable condition to reduce the potential for long term erosion or soil loss.

Fire Prevention Measures

A Fire Prevention Plan would be developed for the Project prior to the beginning of Project activities, which would be implemented throughout the Proposed Project's activities.

Roads and Access

The western portion of the Proposed Project would be accessed by construction staff using Access Road #1 depicted in Figure 2, which connects to an existing dirt road, Utility Road 3, which is located to the north of the Proposed Project. Utility Road 3 connects to Ponderosa Way approximately 0.9-mile west of the Proposed Project location, which provides regional access to Lumpkin Road to the north.

The portion of the Proposed Project Site containing the diversion dam and wet well would be accessed using a 0.2-mile in length dirt road that was originally used during the construction of the dam, which connects to Sucker Run Road. This road is referred to as Access Road #3 in Exhibit 2. Over the years, Access Road #3 has eroded and become overgrown with vegetation. Therefore, the Proposed Project would include re-grading this road to permit access as needed. According to STS, Access Road #3 was already cleared of vegetation in March 2024. Minor grading of Access Road #3 and Utility Road 3 may be necessary to allow for construction equipment access.

All construction material and equipment that would be used during work at the diversion dam would be transported there using Access Road #3.

No bridge safety inspection is proposed for the burned remains of the dam access bridge by STS as part of this Proposed Project since the bridge would not be utilized by vehicular traffic or by heavy equipment during implementation of the Proposed Project, nor are there any plans for this bridge to be used in the future.

Anticipated Construction Schedule

To avoid and minimize potential environmental effects, the Proposed Project would include the implementation of the following best management practices:

- Scheduling construction during the late summer, between August 1 and September 30.
- Protecting the root structures of established vegetation where possible.
- Stabilizing construction vehicle entrances and exits.
- Use of proper containment, removal, and disposal of debris and waste.
- Temporary erosion control mats or blankets and minimal hydroseeding.
- Use of biodegradable hydraulic fluids for any equipment operation in the flowing creek channel.
- Regular review and maintenance of construction vehicles and equipment to ensure no fluid leaks are present.
- Fueling and oiling of equipment to be conducted in designated upland locations with adequate spill prevention measures.
- Stop-work and consultation with appropriate Tribes and agencies in the event of inadvertent discovery of tribal or cultural resources.

3.0 ENVIRONMENTAL FACTORS AND ANALYSIS

This chapter provides an overview of the existing physical environment and regulatory requirements for each of the resources that may be affected by the Proposed Project. For each resource, there is a discussion of the environmental setting, followed by an evaluation of the potential environmental impacts on the resource. This chapter is organized by resource topic and corresponds to the Environmental Checklist Form of the CEQA Guidelines.

The mitigation measures specified in the impact analysis would either avoid potential adverse impacts completely or reduce the potential impacts to a less-than-significant level. The State Water Board would adopt a mitigation monitoring and reporting program at the time it adopts a mitigated negative declaration. The purpose of the program is to ensure that the mitigation measures adopted as part of the project approval would be implemented when the Proposed Project is constructed.

The following terminology is used to describe the level of significance of potential impacts:

- A finding of **no impact** is appropriate if the analysis concludes that the Proposed Project would not potentially affect the particular resource area in any adverse way;

- A potential impact is considered **less than significant** if the analysis concludes that the Proposed Project would cause no substantial adverse change to the environment and requires no mitigation;

- A potential impact is considered **less than significant with mitigation incorporated** if the analysis concludes that the Proposed Project would cause no substantial adverse change to the environment with the inclusion of mitigation measures; and

- A potential impact is considered **significant and unavoidable** if the analysis concludes that the Proposed Project could have a substantial adverse effect on the environment, and mitigation to a less-than-significant level of impact is not feasible.

3.1. Aesthetics

Except as provided in Public Resources Code section 21099 – Modernization of Transportation Analysis for Transit-Oriented Infill Projects, 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?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Proposed Project is located on Sucker Run Creek in Butte County, California and primarily includes the Kanaka Diversion Dam, Kanaka Penstock, Kanaka Powerhouse and associated electrical infrastructure. Kanaka Diversion Dam forms a small 0.23 acre-feet impoundment when full but has dried completely in low precipitation years.

The Proposed Project is located in an incised valley surrounded primarily by recently burned undeveloped forested hillslopes and private property consisting of mixed conifer forest, ponderosa pine forest, oak woodland, chaparral, montane meadow, and annual

grassland. Dense forest obscures views of the Proposed Project from public viewpoints including Sucker Run Road to the south, which is the closest public access point. The Proposed Project is not visible from a state highway or any other primary travel corridor. In 2017, the aesthetics of the Proposed Project location and nearby vicinity were substantially altered by the Ponderosa fire that burned primarily within the Sucker Run Creek Canyon.

As shown in Figure COS-7 of the Butte County General Plan, Conservation and Open Space Element, there are water-based scenic areas within the Proposed Project vicinity that are recognized in the County's General Plan, including Lake Oroville, which is located southwest of the site (Butte County 2023b).

ANALYSIS

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

Less than Significant. A scenic vista is generally defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. A substantial adverse effect to a scenic vista is one that degrades the view from a designated viewing location. Based on the topography of the Proposed Project, which is located at the bottom of a canyon, and the private land ownership in the vicinity, Lake Oroville is not visible from the Proposed Project site, nor would the Proposed Project include any activities that would impair public views of Lake Oroville. The Proposed Project would not change the existing visual setting of the Proposed Project location through activities such as grading or construction of any new buildings or structures.

Therefore, the Proposed Project would have a less than significant impact related to this threshold, and no mitigation is required.

(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. There are no State-designated scenic highways in Butte County; however, a portion of Highway 70 is designated as an eligible scenic highway (Butte County 2023a). Highway 70 is located approximately 15 miles from the Proposed Project location. As such, due to the distance and intervening topography, the Proposed Project would not be visible from the highway.

Therefore, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

(c) In non-urbanized areas, would the Proposed Project 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 Proposed Project is in an urbanized area, would the Proposed Project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant. The Proposed Project is in a non-urbanized portion of Butte County on gated private property with no public access. The area is mountainous and heavily forested with steep gradients. The existing on-site dam facilities have been in place since 1988, and they include a diversion structure, penstock, powerhouse, tap line, and appurtenant facilities. However, in 2017, the forest around the Proposed Project burned during a wildfire. The Proposed Project would include the removal of the burned powerhouse and associated equipment, which would improve the post-fire aesthetics of the Proposed Project location by removing dilapidated infrastructure and returning the area to a more natural condition when compared to existing conditions. As the Proposed Project is located on private land and is not prominently visible from publicly accessible viewpoints, the Proposed Project would not degrade existing visual character or public views of the area.

Therefore, the Proposed Project would have a less than significant impact related to this threshold, and no mitigation is required.

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

No Impact. Prior to the 2017 Ponderosa Fire, the Kanaka Powerhouse in the Proposed Project location included a low-level interior light source. However, since the fire event the light is no longer functional. The Proposed Project would be located entirely on private land and would not be prominently visible from any publicly accessible viewpoints due to distance, topography, and vegetation. The Proposed Project would leave the existing diversion dam in place and would remove the damaged powerhouse and associated equipment, which would not create any new sources of light or glare. Construction activities associated with the Proposed Project would occur during the daytime so no nighttime lighting would be required temporarily during construction.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

3.2. Agriculture and Forest 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board. Would the Project:	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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board. Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Based on review of the California Important Farmland Finder Map, prepared by the California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP), there are no lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on or near the Proposed Project (DOC 2024a). The Proposed Project is classified as "Other Land" meaning the land is not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than forty acres.

ANALYSIS

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

No Impact. The Proposed Project would not alter the existing zoning or authorized use of the Proposed Project area. The Proposed Project would not convert any Prime, Unique or farmland of statewide important to a non-agricultural use.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

b) Would the Proposed Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Proposed Project location is not zoned for agricultural use. Furthermore, as shown in the Butte County General Plan Update EIR, Figure 5.2-2, the Proposed Project location is not located within a Williamson Act Contract Land (Butte County 2023a).

Therefore, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

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

No Impact. Public Resources Code section 12220, subdivision (g) defines "forest land" as "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water

quality, recreation, and other public benefits." Government Code section 51104, subdivision (f) defines timberland as "privately owned land, or land acquired for state forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre."

According to the County Zoning Ordinance, the Proposed Project location is zoned as Timber Mountain (TM), which is intended to support the growing and harvesting of timber, pulp woods, and other forestry products for commercial purposes. The Proposed Project would not conflict with or cause the rezoning of the Proposed Project location from the TM zoning designation. Alternative energy sources are allowable within TM zones as stated in the General Plan Land Use Element. Furthermore, the Proposed Project consists of the removal and abandonment of existing facilities, which would in no way conflict with existing zoning.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project consists of surrendering the existing Hydroelectric Project license, removal of the existing powerhouse, and sealing the existing penstock and diversion tunnel within the Proposed Project location. The Proposed Project would not involve the removal of any trees that would contribute to loss of forest land nor would the Proposed Project change the land use designation or zoning for the Proposed Project location. For these reasons the Proposed Project would not involve any activities that would result in the loss of forest land or conversion of forest land to non-forest use.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project location is not zoned for or currently used for agricultural purposes. The Proposed Project does not propose any actions that would change or alter zoning. Therefore, the Proposed Project would not result in the conversion of farmland.

The Proposed Project would not impact any lands that are actively being used for commercial forestry or for timber production. The Proposed Project would not alter access or other conditions that would result in adverse effects to forest-related uses in the nearby vicinity. As such, the Proposed Project would not result in the loss of forest

land or the conversion of forest land to non-forest use, and as such would have no impact directly, indirectly, or cumulatively.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is 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?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The Proposed Project location is located within the Sacramento Valley Air Basin (SVAB) and is under the jurisdiction of the Butte County Air Quality Management District (BCAQMD). The SVAB encompasses approximately 14,994 square miles with a largely flat valley floor (excepting the Sutter Buttes) about 200 miles long (north-south) and up to 150 miles wide (east-west). The SVAB is bound by the Coast Mountain Ranges to the west, the Cascade Range to the north, and the northern portions of the Sierra Nevada to the east. In Butte County, winters are generally mild with daytime average temperatures in the low 50s Fahrenheit (°F) and nighttime temperatures in the upper 30s°F. Temperatures range from an average January low of approximately 36°F to an average July high of approximately 96°F, although periodic lower and higher temperatures are common. Rainfall between October and May averages about 26 inches but varies considerably year to year. Heavy snowfall often occurs in the northeastern mountainous portion of the County. Periodic rainstorms contrast with occasional stagnant weather and thick ground or “tule” fog in the moister, flatter parts of

the valley. Winter winds generally come from the south, although north winds also occur (BCAQMD 2014).

The SVAB is comprised of 11 counties including Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, Yolo, and Yuba and contains roughly two million people. The Proposed Project and Butte County as a whole are located within the Northern Sacramento Valley Air Basin (NSVAB) planning area. Emissions from the urbanized portion of the basin (i.e., Sacramento, Yolo, Solano, and Placer Counties) dominate the emission inventory for the SVAB, and on-road motor vehicles are the primary source of emissions in the Sacramento metropolitan area. While pollutant concentrations have generally declined over the years, additional emission reductions will be needed to attain the State and national ambient air quality standards in the SVAB (BCAQMD 2014).

Diminished air quality within Butte County largely results from local air pollution sources, transport of pollutants into the area from the south, the NSVAB topography, prevailing wind patterns, and certain inversion conditions that differ with the season. During the summer, sinking air forms a “lid” over the region, confining pollution within a shallow layer near the ground that leads to photochemical smog and visibility problems. During winter nights, air near the ground cools while the air above remains relatively warm, resulting in little air movement and localized pollution “hot spots” near emission sources. Carbon monoxide, nitrogen oxides, particulate matter, and lead particulate concentrations tend to elevate during winter inversion conditions when little air movement may persist for weeks. As a result, high levels of particulate matter (primarily fine particulates or PM2.5) and ground-level ozone are the pollutants of most concern to the NSVAB Districts. Ground-level ozone, the principal component of smog, forms when reactive organic gases (ROG) and nitrogen oxides (NOx) — together known as ozone precursor pollutants — react in strong sunlight. Ozone levels tend to be highest in Butte County during late spring through early fall, when sunlight is strong and constant, and emissions of the precursor pollutants are highest (BCAQMD 2014).

ANALYSIS

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

Less than Significant. Both the U.S. Environmental Protection Agency (USEPA) and the State of California have established health-based Ambient Air Quality Standards (AAQS) for air pollutants, which are known as “criteria pollutants”. The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. The federal criteria pollutants are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with a diameter of 10 microns or less (PM10), fine particulate matter with a diameter of 2.5 microns or less (PM2.5), and lead.

The State of California Air Resources Board (CARB) has established standards for the federal criteria pollutants that are generally more restrictive than the national AAQS, and additional standards for atmospheric sulfates, vinyl chloride, hydrogen sulfide, and visibility. National and State AAQS are shown in Table 1.

TABLE 1
CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	—	—
O_3	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
PM10	AAM	20 µg/m^3	—	Same as Primary
PM2.5	24 Hour	—	35 µg/m^3	Same as Primary
PM2.5	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
CO	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
CO	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	—	—
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	—
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	—	—
SO_2	3 Hour	—	—	0.5 ppm (1,300 µg/m^3)
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	—
Lead	30-day Avg.	1.5 µg/m^3	—	—
Lead	Calendar Quarter	—	1.5 µg/m^3	Same as Primary
Lead	Rolling 3-month Avg.	—	0.15 µg/m^3	

TABLE 1
CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	**No Federal Standards**
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM10: respirable particulate matter 10 microns or less in diameter; AAM: Annual Arithmetic Mean; –: No Standard; PM2.5: fine particulate matter 2.5 microns or less in diameter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer.

[a] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect public health.

[b] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016

Regional air quality is defined by whether the area has attained or not attained State and federal air quality standards, as determined by air quality data from various monitoring stations. Areas that are considered in “nonattainment” are required to prepare plans and implement measures that will bring the region into “attainment”. When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as “maintenance”, and there must be a plan, and measures established that will keep the region in attainment for the following ten years. Table 2 summarizes the attainment status of the County of Butte for the criteria pollutants.

TABLE 2
CRITERIA POLLUTANT DESIGNATIONS
IN THE COUNTY OF BUTTE

Pollutant	State	Federal
O_3 (1-hour)	Nonattainment	No Standard
O_3 (8-hour)	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM10 (24-hour)	Nonattainment	Attainment
PM2.5 (24-hour)	No Standard	Attainment
Annual PM10	Attainment	No Standard
Annual PM2.5	Nonattainment	Attainment

O_3: ozone; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less. Source: BCAQMD 2018

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illnesses or that may pose a present or potential hazard to human health. TACs may be emitted from a variety of common sources, including motor vehicles, gasoline stations, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the "criteria" pollutants previously discussed in that AAQS have not been established for them. TACs occurring at extremely low levels may still affect health, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts on human health are described by having carcinogenic risk and being chronic (i.e., of long duration) or acute (i.e., severe but of short duration). Diesel particulate matter (diesel PM) is a TAC and is responsible for the majority of California's known cancer risk from outdoor air pollutants.

The effects from air pollution can be significant, both in the short-term during smog alerts, but also from long-term exposure to pollutants. While the majority of the populace can overcome short-term air quality health concerns, selected segments of the population are more vulnerable to its effects. Specifically, young children, the elderly, and persons with existing health problems are most susceptible to respiratory complications.

Of the available air quality monitoring stations, air quality data at the Paradise monitoring station located at 4405 Airport Road and the Chico – East Avenue monitoring station are most representative of the Proposed Project location due to their proximity to the Proposed Project location and similar meteorological conditions. Pollutants measured at the Paradise monitoring station include O_3, while pollutants

measured at the Chico monitoring station include PM10, PM2.5, and NO_2. The monitoring data presented in Table 3, Air Quality Levels Measured at the Paradise and Chico Monitoring Stations, include maximum pollutant levels and exceedances of federal and State air quality standards for the years 2020–2022.

TABLE 3
AIR QUALITY LEVELS MEASURED AT THE
PARADISE AND CHICO MONITORING STATIONS

Pollutant	California Standard	National Standard	Year	Max. Level[a]	Days State Standard Exceeded	Days National Standard Exceeded
O_3* (1 hour)	0.09 ppm	None	2020	0.110	2	N/A
			2021	0.093	0	N/A
			2022	0.082	0	N/A
O_3* (8 hour)	0.070 ppm	0.070 ppm	2020	0.097	10	10
			2021	0.078	9	9
			2022	0.066	0	0
PM10** (24 hour)	50 µg/m^3	150 µg/m^3	2020	391.3	53	10
			2021	130.3	33	0
			2022	76.2	10	0
PM2.5** (24 Hour)	None	35 µg/m^3	2020	329.3	–	33
			2021	102.7	–	13
			2022	42.8	–	2
NO_2** (1 hour)	0.18 ppm	0.100 ppm	2020	0.033	0	0
			2021	0.031	0	0
			2022	0.029	0	0

–: O_3: ozone; ppm: parts per million; N/A indicates that there is no applicable standard; PM10: respirable particulate matter with a diameter of 10 microns or less; µg/m^3: micrograms per cubic meter; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; –: Data Not Reported or insufficient data available to determine the value ; nitrogen dioxide (NO_2).

[a] Estimated days based on measurement every six days.

*: Pollutant data gathered from the Paradise – 4405 Airport Road Monitoring Station.

**: Pollutant data gathered from the Chico – East Avenue Monitoring Station.

Source: CARB 2022a

The BCAQMD defines a "sensitive receptor" as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units (BCAQMD 2014).

Significance Criteria

Appendix G of the CEQA Guidelines states that the significance criteria established by the applicable air quality management district may be relied upon to make significance determinations. The BCAQMD has established significance thresholds to assess the regional and localized impacts of Project-related air pollutant emissions; Table 4 presents the current significance thresholds.

TABLE 4
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds[a]			
Pollutant	**Construction**	**Operation**	
NOx	137 lbs/day	25 lbs/day	
VOC	137 lbs/day	25 lbs/day	
PM10	80 lbs/day	80 lbs/day	
TACs, Odor, and GHG Thresholds			
New Source and Receptor TACs (including carcinogens and non-carcinogens)	Increased Cancer Risk ≥ 10 in 1 million Increased Non-Cancer Risk > 1.0 Hazard Index (Chronic or Acute)	Ambient Diesel PM2.5 Increase > 0.3 µg/m^3 Annual Average	Zone of Influence: 1,000-foot Radius from Parcels of Source or Receptor
Odor	Project creates an objectional odor		
Stationary and Non-Stationary Source GHG	**No Adopted Threshold**		
Ambient Air Quality Standards for Criteria Pollutants[b, c]			
NO_2 1-hour average annual arithmetic mean	BCAQMD is in attainment; Project is significant if it causes or contributes to an exceedance of the following attainment standards:	0.18 ppm (State)	0.03 ppm (State) and 0.0534 ppm (federal)

TABLE 4
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
AIR QUALITY SIGNIFICANCE THRESHOLDS

Ambient Air Quality Standards for Criteria Pollutants[b, c]			
PM10	24-hour average 10.4 µg/m^3 (construction)[c] & 2.5 µg/m^3 (operation)	annual average 1.0 µg/m^3	
PM2.5 24-hour average	10.4 µg/m^3 (construction)[c] & 2.5 µg/m^3 (operation)		
SO_2	1-hour average 0.25 ppm (State) & 0.075 ppm (federal – 99th percentile)	24-hour average 0.04 ppm (State)	
Sulfate 24-hour average	25 µg/m^3 (State)		
CO	BCAQMD is in attainment; Project is significant if it causes or contributes to an exceedance of the following attainment standards:	1-hour average 20.0 ppm (State) and 35 ppm (federal)	8-hour average 9.0 ppm (State/federal)
Lead	30-day average 1.5 µg/m^3 (State)	Rolling 3-month average 0.15 µg/m^3 (federal)	

NOx: nitrogen oxides; lbs/day: pounds per day; VOC: volatile organic compound; PM10: respirable particulate matter with a diameter of 10 microns or less; TAC: toxic air contaminants; GHG: greenhouse gases; NO_2: nitrogen dioxide; BCAQMD: Butte County Air Quality Management District; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM2.5: fine particulate matter with a diameter of 2.5 microns or less, CO: carbon monoxide.

[a] Source: BCAQMD CEQA Air Quality Handbook (2014)

Source: BCAQMD 2014

Air quality in Butte County is regulated by the BCAQMD, which is the agency principally responsible for comprehensive air pollution control in Butte County. The BCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary. The BCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources.

The applicable air quality plan for jurisdictions under the oversight of the BCAQMD is the Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan. The Plan applies to all jurisdictions located within the NSVAB planning area since these counties are located within the SVAB and ozone pollution is regional in nature. The Air Quality Attainment Plan and subsequent triennial updates were prepared by the Sacramento Valley Air Quality Engineering and Enforcement Professionals with oversight from the Sacramento Valley Air Basin Control Council's Technical Advisory Committee. The Basin Control Council approves the triennial updates prior to the individual North Sacramento Valley Planning Areas (NSVPA) Districts adopting the Plan (BCAQMD 2021).

The BCAQMD recommends that lead agencies and applicants evaluate a project's contribution to changes in employment, population, and vehicle miles traveled (VMT) in relation to those projections made by the Butte County Association of Governments (BCAG). The Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan provides the locally appropriate data necessary to evaluate the consistency of a project's potential air quality impacts (due to non-stationary sources) with the attainment plan's emission projections. In general, a project conflicts with or obstructs implementation of the applicable attainment plan if it would result in or induce growth in population, employment, land use, or regional VMT that is inconsistent with the growth (and therefore the emission projection) assumptions in the applicable attainment plan. While the Proposed Project would contribute a minimal amount of VMT relative to the statewide VMT during construction, the Proposed Project involves the surrender of the existing Hydroelectric Project license and associated infrastructure; as such, the Proposed Project would not have the potential to result in or induce growth in population, employment, land use, or regional VMT that is inconsistent with the growth (and therefore the emission projection) assumptions in the Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

b) Would the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction Emissions – Regional

Less than Significant. Criteria pollutant emissions would occur during construction from vehicle exhaust from the operation of construction equipment; excavation and earth-moving activities, which would generate fugitive dust; export of debris; import of construction materials; and operation of vehicles driven to and from the site by construction workers. Emissions would vary from day to day, depending on the level of activity; the specific type of construction activity occurring; and, for fugitive dust, prevailing weather conditions.

Proposed Project emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.20 computer program (CAPCOA 2022). CalEEMod is designed to model construction and operational emissions for land development projects and allows for the input of project and County specific information. Construction of the Proposed Project is estimated to commence between July 1 and end on September 30; however, changes to the schedule would not substantively change the magnitude of emissions. The CalEEMod input for construction emissions was based on data provided by STS. This data included construction phasing and duration as well as the type and number of construction equipment to be used during each phase. The CalEEMod inputs for construction emissions are summarized below:

Powerhouse Removal:

- Demolition of powerhouse and substation. Equipment used: one excavator and one dozer.
- Burial of foundations associated with former powerhouse and substation (approximately 35-foot by 38-foot in size). Equipment used: one excavator.
- Grading of former substation/powerhouse site. Equipment used: one grader.
- Removal of turbine and generator. Equipment used: one excavator and one dozer.

Penstock Closure:

- Seal penstock with concrete. Equipment used: work would be done by hand.
- Fill well with gravel, rock, and sand. Equipment used: work would be done by hand.
- Welding of a plate. Equipment used: one welder.

Tailrace Abandonment:

- Fill tailrace channel with rocks and soil from previously disturbed upland areas of the Proposed Project location. The lower portion of the tailrace will be capped with riprap for slope protection. Equipment used: one excavator and one dozer.
- Fine grading of the edges of the abandoned tailrace. Equipment used: one grader.

Fine Grading Around the Powerhouse:

- Following the completion of powerhouse removal and associated tasks, STS would conduct minor fine grading on the road and flat areas around the powerhouse (only) into a stable condition to reduce the potential for long term erosion or soil loss. Equipment used: one grader.

The mass emissions thresholds (see Table 4) are based on the rate of emissions (i.e., pounds of pollutants emitted per day). Therefore, the quantity, duration, and the intensity of construction activity are important in calculating the daily emissions. The burial of foundations associated with former powerhouse and substation would require the import of 60 cubic yards of fill. More detailed information related to construction-related equipment utilization, construction worker, and haul truck information can be found in Appendix A of this document.

Maximum daily emissions for the Proposed Project's peak workday are shown in Table 5, Estimated Maximum Daily Construction Emissions. As shown, all criteria pollutant emissions would be less than their respective thresholds.

Thus, impacts to regional construction emissions from the Proposed Project would be less than significant, and no mitigation is required.

TABLE 5
ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS
(LBS/DAY)

Year	NOx	VOC	PM10
2025	55	6	
Maximum	**55**	**6**	**5**
Exceeds Thresholds?	**No**	**No**	**No**

lbs/day: pounds per day; NOx: nitrogen oxides; VOC: volatile organic compound(s); PM10: inhalable particulate matter with a diameter of 10 microns or less; BCAQMD: Butte County Air Quality Management District.

Source: BCAQMD 2014 (Thresholds). CalEEMod data in Appendix A.

Long-Term Operational Emissions

No Impact. Operational emissions are comprised of area, energy, and mobile source emissions and are typically estimated using CalEEMod. Area source emissions include consumer products, routine painting, and landscaping equipment and are based on CalEEMod assumptions for the specific land uses and population. Energy emissions include the use of natural gas for hot water heating and electricity. Mobile source emissions are based on estimated Project-related trip generation forecasts. As stated previously, the Proposed Project involves the surrender of the existing Hydroelectric Project FERC license, including sealing of the existing penstock and diversion tunnel, and removal and restoration of the existing powerhouse. Hydroelectric Project operations ceased in 2017 upon destruction of the Kanaka Powerhouse by the Ponderosa Fire. STS proposed surrendering the Hydroelectric Project FERC license after post-fire assessments found that repair and operation of the dam and ancillary equipment would not be cost effective. Since the Hydroelectric Project would no longer be authorized following the FERC license surrender, no long-term air quality impacts would occur.

Cumulative Impacts

Less than Significant. The Butte County portion of the NSVAB planning area is a nonattainment area for O_3, PM10, and annual PM2.5. The Proposed Project would generate these pollutants during construction, and short-term cumulative impacts related to air quality could occur if Proposed Project construction and nearby construction activities were to occur simultaneously. In particular, with respect to local impacts, cumulative construction particulate (i.e., construction emissions, fugitive dust) impacts are considered when projects are located within a few hundred yards of each other. As noted above in Table 5, construction emissions would be below the regional and localized significance thresholds. Additionally, there are no related projects proposed within the vicinity of the Proposed Project location.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

Exposure of sensitive receptors is addressed for the following situations: CO hotspots; criteria pollutants from onsite construction; and TACs from onsite construction.

Carbon Monoxide Hotspot

Less than Significant. A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. If a project increases average delay at signalized intersections operating at level of service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, a quantitative screening is required. As

discussed in Section XVII – Transportation, the Proposed Project would only require minimal trips associated with construction activities and would not result in any operational trips. Therefore, the implementation of the Project would not result in the degradation of any intersection's LOS and would not result in the creation of a CO hotspot or exposure of sensitive receptors to substantial, Project-generated local CO emissions.

Criteria Pollutants from Onsite Construction

Less than Significant. Exposure of persons to NO_2, VOC, and PM10 emissions is discussed in response to threshold question III(b), above. There would be no significant impacts, and no additional mitigation is required.

Toxic Air Contaminant (Diesel PM) Emissions from Onsite Construction

Less than Significant. Construction activities would result in short-term, Proposed Project-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment used for the various phases of construction detailed in threshold question III(b). CARB identified diesel PM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments—which determine the exposure of sensitive receptors to TAC emissions—should be based on a 30- to 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with a project.

For the Proposed Project, the construction period would be short (i.e., approximately two months) when compared to a 30- to 70--year exposure period. In addition, the Proposed Project location is located thousands of feet from any sensitive land use. When considering these facts combined with the highly dispersive properties of diesel PM and additional reductions in particulate emissions from newer construction equipment, as required by USEPA and CARB regulations, it can be concluded that TAC emissions during construction of the Proposed Project would not expose sensitive receptors to substantial emissions of TACs.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

d) Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant. The Proposed Project would not result in other emissions that would affect a substantial number of people. Objectionable odors are generally associated with agricultural activities; landfills and transfer stations; the generation or

treatment of sewage; the use or generation of chemicals; food processing; or other activities that generate unpleasant odors (SCAQMD 1993). The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project boundary. During construction, the Proposed Project would operate equipment that may generate odors resulting from onsite construction equipment's diesel exhaust emissions. However, given that the Proposed Project would occur entirely on private property and because of the substantial distance to potential nearby receptors, these odors from construction equipment that would be used to implement the Proposed Project would not affect a substantial number of people.

Therefore, in conclusion, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

3.4. 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?	☐	☒	☐	☐
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 U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with an established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Regional Environment

The Proposed Project location is located in the Northern Sierra Lower Montane Forests ecoregion of northeast California. It occurs on the western slopes of the Sierra Nevada. The Plumas National Forest Boundary is located to the north, south, and east of the Proposed Project location. This area is characterized by a mix of montane hardwood, montane hardwood – conifer, and mixed conifer forests.

The Feather River is the largest tributary to the Sacramento River (NOAA 2022) and is part of the broader Sacramento River Basin. The basin is divided into an upper and lower watershed which has six subregions, including the Feather River region. The Feather River region is further divided into the North Fork Feather, East Branch North Fork Feather, and Middle Fork Feather River watersheds. The Proposed Project location is in the Middle Fork Feather River Watershed. The Sucker Run Creek basin is a subset of the Middle Fork Feather River Watershed and drains an area of 12,584 acres.

Climate

California experiences a Mediterranean climate characterized by mild, rainy winters and hot, dry summers. The temperature is moderated by the coastal influence of the Pacific Ocean, which creates mild conditions throughout most of the year. The most distinguishing characteristic of a Mediterranean climate is its seasonal precipitation. Precipitation is characterized by brief, intense storms between November and March. It is not unusual for the majority of the annual precipitation to fall during a few storms over a short span of time.

Temperature varies by month. July is the hottest month with an average maximum temperature of 96.8 degrees Fahrenheit (°F) and January is the coldest month with an average minimum temperature of 39.7°F (data taken from the Oroville, CA Station; mean maximum and minimum temperature norms between 1991 and 2020) (NOAA 2023).

Rainfall patterns in the region are subject to extreme variations from year to year and longer-term wet and dry cycles. The region receives an average of 30.56 inches of precipitation per year (data taken from the Oroville, CA Station; monthly climate normal between 1991 and 2020) (NOAA 2023). Precipitation is highest in the winter months, with December, January, and February receiving over five inches of rainfall, on average. June through September receive less than 1 inch of rainfall, on average.

Climate change refers to any significant change in climate, such as the average temperature, precipitation, or wind patterns over a period of time. Significant changes in global climate patterns have been associated with an accumulation of greenhouse gas emissions in the atmosphere. Some greenhouse gases occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities; the majority of global warming is attributed to human activities. In addition to affecting temperature and precipitation patterns, climate change is believed to be contributing to more extreme weather events such as more frequent larger storms and extended periods of drought (USFS 2018; USEPA 2017).

Climate change effects are changing fire patterns and disease outbreaks and affecting water supplies (USFS 2018). Fires are a natural part of the landscape, but each year the fire season is coming earlier and ending later. In addition, the fires themselves are burning hotter and have become more damaging and dangerous. Similarly, insects are a natural part of forested landscapes, but now the insects are spreading more rapidly because the winter is not cold enough to reduce their populations. Also, insect-caused disease epidemics are larger and last longer, killing more trees and increasing fire risk. The warmer winters are affecting water supplies because the snow packs are thinner and melt earlier in spring, so the water runs out from the forest earlier in summer. Extended droughts also make trees more vulnerable to both fire and insects (USFS 2018).

The most recent fire to affect the area was the Ponderosa Fire. It began in August 2017 and burned approximately 4,016 acres (CAL FIRE 2017). Several Project facilities were severely damaged or destroyed during the fire, including the powerhouse, transmission lines, the diversion site access bridge, and electrical and mechanical equipment. The Project has been inoperable since that time.

Local Environment

The Proposed Project location includes the area around Sucker Run Creek. Topography consists of steep slopes down to the meandering Sucker Run Creek and a

ridgeline along Sucker Run Road to the south. Elevations in the Proposed Project location range from 1,150 to 1,875 feet above mean sea level (msl).

Waters

Sucker Run Creek is a perennial stream with a watershed area of 14.47 square miles. It is joined by Little Sucker Run Creek, an intermittent stream approximately 0.4 mile downstream from the dam that is located within the Proposed Project location. Little Sucker Run Creek has a watershed area of 12.9 square miles above its mouth.

The National Wetlands Inventory maps Sucker Run Creek, Little Sucker Run Creek, and unnamed tributaries near the eastern end and western ends of the Proposed Project location (USFWS 2023c). Above the confluence with Little Sucker Run Creek, Sucker Run Creek is mapped as a freshwater forested/shrub wetland classified in the Palustrine System as forested and seasonally flooded (PFOC). Below the confluence with Little Sucker Run Creek, Sucker Run Creek is mapped as a riverine wetland classified in the Riverine System in the Upper Perennial Subsystem with unconsolidated bottom that is permanently flooded (R3UBH). Little Sucker Run Creek is also mapped as a freshwater forested/shrub wetland in the Palustrine System but is considered forested and temporarily flooded (PFOA). The tributaries at either end of the Proposed Project location are mapped as a riverine wetland classified in the Riverine System, Intermittent Subsystem, with a seasonally flooded streambed (R4SBC).

Soils

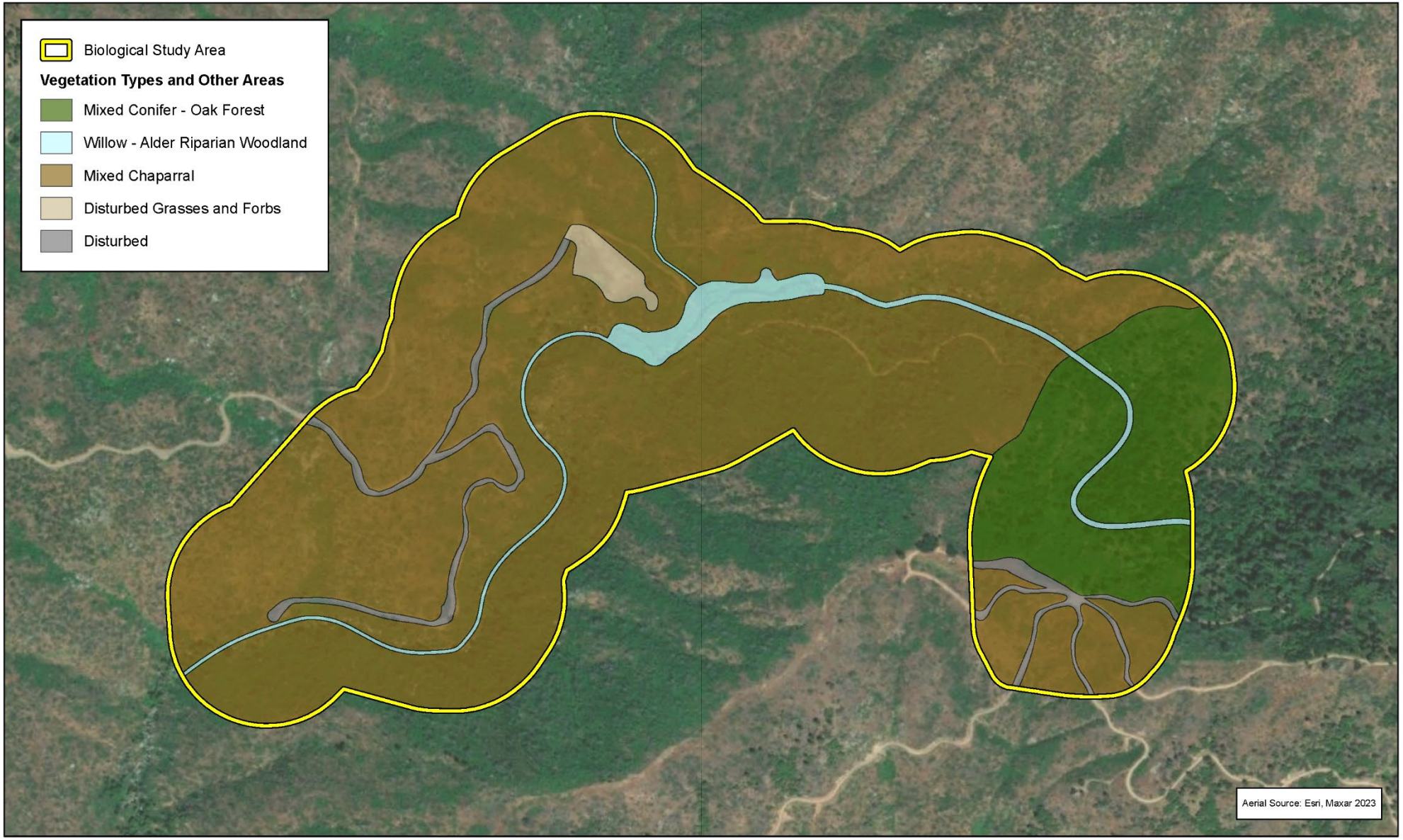
Soils mapped in the Proposed Project location include Featherfalls – Islandbar, 50 to 70 percent slopes; Crystalhill – Oregongulch – Craigsaddle – Rock outcrop, 2 to 15 percent slopes; Crystalhill – Oregongulch – Craigsaddle – Rock outcrop, 15 to 30 percent slopes; and Crystalhill – Oregongulch – Craigsaddle – Rock outcrop, 30 to 50 percent slopes (USDA NRCS 2023). None of these soils are listed as hydric on the National Hydric Soils List (USDA NRCS 2023).

Featherfalls – Islandbar soils occur on mountain slopes. They are sandy loams. The parent material consists of fine- and coarse-loamy colluvium and residuum weathered from igneous rock. They are well drained to somewhat excessively drained.

Crystalhill – Oregongulch – Craigsaddle – Rock outcrops occur on hillslopes. They are gravelly coarse sandy loams, coarse sandy loams, and gravelly sandy loams. The parent material consists of fine- and coarse-loamy colluvium and residuum weathered from igneous rock.

Vegetation Types and Other Areas

As depicted in Exhibit 3, the following vegetation types occur in the Proposed Project location: mixed conifer – oak woodland, mixed chaparral, willow – alder riparian woodland, disturbed grasses and forbs, and disturbed.



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Vegetation Types and Other Areas

Exhibit 3

Removal and Decommissioning of Kanaka Powerhouse for Kanaka Hydroelectric Project License Surrender

N W E S

0 350 700 Feet

PSOMAS

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TABLE 6
VEGETATION TYPES AND OTHER AREAS
IN THE PROPOSED PROJECT LOCATION

Vegetation Type or Other Area	Total Vegetation in Proposed Project location (acres)
Mixed Conifer – Oak Forest	31.06
Mixed Chaparral	169.51
Willow – Alder Riparian Woodland	7.96
Disturbed Grasses and Forbs	2.23
Disturbed	6.10
Total	**216.86**

Mixed Conifer – Oak Forest

Mixed conifer – oak forest occurs at the eastern end of the Proposed Project location on upland slopes. This area was not burned in the 2017 Ponderosa Fire. The area is dominated by an open tree canopy with a dense understory of shrubs and an herbaceous layer.

Vegetation consists of a mix of conifers and hardwoods in the tree canopy, with no single species dominant. Trees include Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*), incense cedar (*Calocedrus decurrens*), Ponderosa pine (*Pinus ponderosa*), California black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), big-leaf maple (*Acer macrophyllum*), tan oak (*Notholithocarpus densiflorus*), and California-nutmeg (*Torreya californica*). The understory is dense and contains Pacific madrone (*Arbutus menziesii*), deer brush (*Ceanothus integerrimus*), wild mock orange (*Philadelphus lewisii*), honeysuckle (*Lonicera* sp.), gumplant (*Grindelia* sp.), alumroot (*Heuchera micrantha*), and mountain misery (*Chamaebatia foliolosa*), as well as ferns (e.g., sword ferns [*Polystichum* sp.], wood ferns [*Dryopteris* sp.], and silverback fern [*Pentagramma* sp.]) and mosses. Non-native species observed include Himalayan blackberry (*Rubus armeniacus*), Scotch broom (*Cytisus scoparius*), and Saint John's wort (*Hypericum perforatum*). These species were abundant along the previously graded trail.

The vegetation observed in the Proposed Project location does not strictly match a named Alliance in *A Manual of California Vegetation* because of the diversity of the tree canopy and lack of a dominant or codominant species. Various Associations include tree species present in the Proposed Project location. Within the *Pinus ponderosa – Calocedrus decurrens – Pseudotsuga menziesii* Forest and Woodland Alliance, applicable Associations include *Pinus ponderosa – Pseudotsuga menziesii –*

Calocedrus decurrens Association, *Pinus ponderosa* – *Calocedrus decurrens* (mixed conifer) – *Quercus chrysolepis*/*Chamaebatia foliolosa* Association, and *Pinus ponderosa* – *Calocedrus decurens* – *Quercus kelloggii* Association. Within the *Quercus kelloggii* Forest and Woodland Alliance, applicable Associations include *Quercus kelloggii* – *Pseudotsuga menziesii* Association, *Quercus kelloggii* – *Pseudotsuga menziesii* – *Acer macrophyllum* Association, *Quercus kelloggii* – *Calocedrus decurrens* Association, and *Quercus kelloggii* – *Pinus ponderosa* Association.

Mixed Chaparral

Mixed chaparral occurs over the majority of the Proposed Project location. This area was burned in the 2017 Ponderosa Fire and is in the process of recovering. Burned, standing snags are present, but the area currently is dominated by shrubs and an herbaceous layer.

Vegetation is dominated by a mix of shrubs, including deer brush, whiteleaf manzanita (*Arctostaphylos viscida*), toyon (*Heteromeles arbutifolia*), and Pacific madrone. Tree seedlings and saplings are present, including incense cedar, California black oak, and big-leaf maple. Himalayan blackberry and Scotch broom are present along the trails.

Mixed chaparral is consistent with the Ceanothus integerrimus – Arctostaphylos viscida Association under the Ceanothus integerrimus Shrubland Alliance in A Manual of California Vegetation (CNPS 2023b).

Willow – Alder Riparian Woodland

Willow – alder riparian woodland occurs along the creeks in the Proposed Project location. The area was burned, but trees are recovering. Areas mapped as woodland include the stream and adjacent riparian vegetation; areas of surface water were too small or narrow to be mapped separately.

Vegetation consists of patches of red willow (*Salix laevigata*), narrow-leaved willow (*Salix exigua*), and white alder (*Alnus rhombifolia*) along the creek. The understory contains dense Himalayan blackberry and scattered mugwort (*Artemisia douglasiana*), sedge (*Carex* sp.), and cattails (*Typha* sp.).

The vegetation observed in the Proposed Project location is consistent with a mix of the *Alnus rhombifolia – Salix laevigata* Association and the *Alnus rhombifolia*/*Salix exigua* – (*Rosa californica*) Association under the *Alnus rhombifolia* Forest and Woodland Alliance in *A Manual of California Vegetation* (CNPS 2023b), depending on which willow species is present in a particular patch. Note that California rose (*Rosa californica*) is absent.

Disturbed Grasses and Forbs

Disturbed grasses and forbs occur within the construction staging area. The area is considered "disturbed" due to evidence of previous mechanical soil disturbance (i.e., grading).

This vegetation type contains a mix of native and non-native species, though non-native species have higher cover. It includes non-natives such as yellow star-thistle (*Centaurea solstitialis*), orchard grass (*Dactylis glomerata*), and oats (*Avena* sp.) and natives such as gumplant, doveweed (*Croton setiger*), and Spanish clover (*Acmispon americanus* var. *americanus*).

The vegetation observed in the Proposed Project location does not strictly match a named Alliance in *A Manual of California Vegetation* because of the mix of native and non-native species and lack of a dominant or co-dominant species. Common species observed in this vegetation type (e.g., orchard grass and Spanish clover) are not specifically called out as an Association. It most closely resembles the *Centaurea solstitialis* Association under the *Brassica nigra* – *Centaurea* (*solstitialis*, *melitensis*) Herbaceous Semi-Natural Alliance and the *Avena barbata* – *Avena fatua* Association under the *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance (CNPS 2023b).

Disturbed

Disturbed areas occur within graded dirt roads. These areas are predominantly unvegetated with sparsely scattered occurrences of non-native species, such as yellow star-thistle. The area is considered "disturbed" due to previous soil compaction and mechanical soil disturbance (i.e., grading) and use by vehicles. The area observed in the Proposed Project location does not match any named Alliance in *A Manual of California Vegetation* because it does not support sufficient vegetative cover.

Wildlife Populations and Movement Patterns

Vegetation in the Proposed Project location provides habitat for many wildlife species. Forests, chaparral, and woodlands provide high quality habitat for wildlife. Large trees and standing snags provide cavities for shelter (e.g., roosting) and breeding (e.g., cavity-nesting) for wildlife species. Downed wood provides important cover for amphibians, reptiles, and small to medium-sized mammals; nest sites for cavity-nesting and ground-nesting birds; nutrients into the soil as they decompose; and favorable microhabitat for emerging seedlings (Tietje et al. 2005). Common wildlife species observed or expected to occur in the Proposed Project location are discussed below.

Fish

Common fish species that may occur include Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), riffle sculpin (*Cottus gulosus*), bluegill (*Lepomis macrochirus*), and spotted bass (*Micropterus punctulatus*).

In surveys conducted in 2002 and 2003 associated with Lake Oroville Hydroelectric Project relicensing (CDWR 2004) the following fish were found in Sucker Run Creek between the high-water mark of Lake Oroville and the first channel obstructions: rainbow trout, brown trout, bluegill, spotted bass, Sacramento pikeminnow, sucker species, and sculpin species. Historically, STS reports that the following additional fish species may be present in Sucker Run Creek: brook trout, Central California roach, Central Valley steelhead/rainbow trout, hardhead, redear sunfish, riffle sculpin, Sacramento sucker, smallmouth bass, spotted bass, wakasagi, and white crappie.

Amphibians

Amphibians require moisture for at least a portion of their life cycle, and many require standing or flowing water for reproduction. Terrestrial species may or may not require standing water for reproduction; they survive in dry areas by aestivating (i.e., remaining beneath the soil in burrows or under logs and leaf litter and emerging only when temperatures are low and humidity is high). Many of these species' habitats are associated with water, and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year in some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope/aspect.

One amphibian species, Sierra newt (*Taricha sierrae*), was observed in the Proposed Project site in 2023. Other common species that may occur include California slender salamander (*Batrachoseps attenuatus*), western toad (*Anaxyrus boreas*), and Sierran treefrog (*Pseudacris sierrae*).

Reptiles

Reptiles are well-adapted to life in arid habitats. They have several physiological adaptations that allow them to conserve water. Reptiles can also become dormant during weather extremes, allowing them to survive prolonged droughts and paucity of food (Ruben and Hillenius 2005). Reptilian diversity and abundance typically vary with vegetation type and character.

No reptile species were observed during the general survey. Common reptile species that may occur in the Proposed Project location include common sagebrush lizard (*Sceloporus graciosus*), western fence lizard (*Sceloporus occidentalis*), northern alligator lizard (*Elgaria coerulea*), southern alligator lizard (*Elgaria multicarinata*), North American racer (*Coluber constrictor*), California striped racer (*Coluber lateralis lateralis*), common sharp-tailed snake (*Contia tenuis*), ring-necked snake (*Diadophis punctatus*), coast nightsnake (*Hypsiglena ochrorhyncha*), California kingsnake (*Lampropeltis californiae*), California mountain kingsnake (*Lampropeltis zonata*), gopher snake (*Pituophis catenifer*), Sierra gartersnake (*Thamnophis couchii*), western terrestrial gartersnake (*Thamnophis elegans*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus oreganus*).

Birds

Common bird species observed in the Proposed Project location include mountain quail (*Oreortyx pictus*), Anna's hummingbird (*Calypte anna*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), acorn woodpecker (*Melanerpes formicivorus*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stelleri*), American dipper (*Cinclus mexicanus*), bushtit (*Psaltriparus minimus*), ruby-crowned kinglet (*Regulus calendula*), American robin (*Turdus migratorius*), lesser goldfinch (*Spinus psaltria*), and fox sparrow (*Passerella iliaca*).

A variety of common bird species may occur in the Proposed Project location, including mallard (*Anas platyrhynchos*), band-tailed pigeon (*Patagioenas fasciata*), mourning dove (*Zenaida macroura*), red-shouldered hawk (*Buteo lineatus*), western screech-owl (*Megascops kennicottii*), great horned owl (*Bubo virginianus*), northern pygmy-owl (*Glaucidium gnoma*), red-breasted sapsucker (*Sphyrapicus ruber*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), white-headed woodpecker (*Picoides albolarvatus*), pileated woodpecker (*Dryocopus pileatus*), western wood-pewee (*Contopus sordidulus*), dusky flycatcher (*Empidonax oberholseri*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), western kingbird (*Tyrannus verticalis*), Hutton's vireo (*Vireo huttoni*), warbling vireo (*Vireo gilvus*), common raven (*Corvus corax*), mountain chickadee (*Poecile gambeli*), chestnut-backed chickadee (*Poecile rufescens*), oak titmouse (*Baeolophus inornatus*), red-breasted nuthatch (*Sitta canadensis*), brown creeper (*Certhia americana*), rock wren (*Salpinctes obsoletus*), canyon wren (*Catherpes mexicanus*), Pacific wren (*Troglodytes pacificus*), Bewick's wren (*Thryomanes bewickii*), western bluebird (*Sialia mexicana*), Townsend's solitaire (*Myadestes townsendi*), hermit thrush (*Catharus guttatus*), varied thrush (*Ixoreus naevius*), pine siskin (*Spinus pinus*), chipping sparrow (*Spizella passerina*), dark-eyed junco (*Junco hyemalis*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), Lincoln's sparrow (*Melospiza lincolnii*), Nashville warbler (*Leiothlypis ruficapilla*), MacGillivray's warbler (*Geothlypis tolmiei*), yellow-rumped warbler (*Setophaga coronata*), black-throated gray warbler (*Setophaga nigrescens*), hermit warbler (*Setophaga occidentalis*), western tanager (*Piranga ludoviciana*), black-headed grosbeak (*Pheucticus melanocephalus*), and lazuli bunting (*Passerina amoena*).

Mammals

On a site visit in 2023 a California ground squirrel (*Otospermophilus beecheyi*), was observed in the Proposed Project. Other small mammals that may occur in the Proposed Project location include Virginia opossum (*Didelphia virginiana*), western gray squirrel (*Sciurus griseus*), Douglas' squirrel (*Tamiasciurus douglasii*), Humboldt's flying squirrel (*Glaucomys oregonensis*), least chipmunk (*Neotamias minimus*), California chipmunk (*Neotamias obscurus*), Lodgepole chipmunk (*Neotamias speciosus*), dusky-footed woodrat (*Neotoma fuscipes*), brush deermouse (*Peromyscus boylii*), North American deermouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), black-tailed jackrabbit (*Lepus californicus*), brush rabbit

(*Sylvilagus bachmani*), vagrant shrew (*Sorex vagrans*), Trowbridge's shrew (*Sorex trowbridgii*), broad-footed mole (*Scapanus latimanus*), American mink (*Neovison vison*), striped skunk (*Mephitis mephitis*), ringtail (*Bassariscus astutus*), and northern raccoon (*Procyon lotor*). Black bear (*Ursus americanus*) scat has been observed in the Proposed Project area. Other medium to large-sized mammals that may occur include bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and mule deer (*Odocoileus hemionus*).

Bats occur throughout California and may use any portion of the Proposed Project location as foraging habitat. Most of the bats that could potentially occur in the Proposed Project location are inactive during the winter and either hibernate or migrate, depending on the species. Bats may roost in cliffs or rocky outcroppings, crevices of structures, or large trees in the Proposed Project location. Bat species that may occur in the Proposed Project location for foraging and/or roosting include big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*), small-footed myotis (*Myotis ciliolabrum*), Yuma bat (*Myotis yumanensis*), long-legged bat (*Myotis volans*), and fringed bat (*Myotis thysanodes*).

Wildlife Movement

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources (Noss 1983; Farhig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (e.g., foraging for food or water; defending territories; or searching for mates, breeding areas, or cover). A number of terms such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to another. To clarify the

meaning of these terms and to facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows:

A. ***Travel route –*** a landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas; and it provides a relatively direct link between target habitat areas.

B. ***Wildlife corridor –*** a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bound by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and to facilitate their movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat linkages” or “landscape linkages”) can provide both transitory and resident habitat for a variety of species.

C. ***Wildlife crossing –*** a small, narrow area, relatively short in length and generally constricted in nature that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are man-made and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent “choke points” along a movement corridor, which may impede wildlife movement and increase the risk of predation.

It is important to note that in a large, open space area with few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors (as defined above) may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and to provide a variety of travel routes (e.g., canyons, ridgelines, trails, riverbeds, and others), wildlife will use these “local” routes while searching for food, water, shelter, and mates and will not need to cross into other large, open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles (such as roads and highways), the remaining landscape features or travel routes that connect the larger open space areas become corridors as long as they provide adequate space, cover, food, and water and do not contain obstacles or distractions (e.g., man-made noise, lighting) that would generally hinder wildlife movement.

In general, wildlife corridor discussions typically focus on larger, more mobile mammal species such as southern mule deer, mountain lion, and coyote. Discussing the needs of larger mammal species typically also captures the needs of mid-sized mammals such as foxes (*Urocyon* sp.), northern raccoon, striped skunk, and American badger (*Taxidea taxus*). Most mammal species have relatively large home ranges through which they move to find adequate food, water, and breeding and wintering habitat. It is assumed that corridors that serve larger, more mobile mammal species also serve as corridors for many smaller, less mobile species, such as reptiles, amphibians, and rodents. Regional movement for these species facilitates gene flow and requires at least some local "stepping stone" movement of individuals between populations.

Discussions of wildlife corridors generally focus less on bird species because they are more mobile and can fly over inhospitable habitat. Long-distance migrants are able to move great distances over unsuitable habitat; however, they must have stopover sites to rest and forage in order to continue their migration. Many resident species are habitat-specific, moving only through their preferred habitat type(s), or similar adjacent habitat; wildlife corridors would be more important for these bird species.

Ideally, an open space corridor should encompass a heterogeneous mix of vegetation types to accommodate the ecological requirements of a wide variety of resident species in any particular region. Most species typically prefer adequate vegetation cover during movement, which can serve as both a food source and as protection from weather and predators. Drainages, riparian areas, and forested canyon bottoms typically serve as natural movement corridors because these features provide cover, food, and often water for a variety of species. Very few species will move across large expanses of open, uncovered habitat unless it is the only option available to them. Landscape linkages must also provide "live-in" habitat (food and cover) to support smaller and less mobile species, such as amphibians, reptiles, and rodents, that require longer periods to traverse a corridor.

The upland portions of the Proposed Project location are contiguous with large undeveloped open space areas with the Plumas National Forest boundary located to the north, south, and east. Currently, the Proposed Project location is not constrained to an upland wildlife movement corridor and the Proposed Project location provides opportunities for regional and local movement and live-in habitat. The canyons, ridgelines, and the graded access roads present in the Proposed Project location may act as travel routes for local movement.

Related to the aquatic environment, the first 1,600 feet of Sucker Run Creek below the diversion dam drops approximately 240 feet, and is characterized by waterfalls, cascades, chutes, and rapids, with an average gradient of approximately 15 percent. Some of the waterfalls are as high as 40 feet, restricting fish movement in the project area. Two 300-foot-long low gradient sections separate other high-gradient sections of stream downstream of the dam. Approximately 4,000 feet downstream of the powerhouse, Sucker Run Creek flows into Lake Oroville.

Prior to the fire, Sucker Run Creek was heavily canopied with riparian vegetation and forest cover. Currently the only heavily canopied area that remains is near the diversion dam. Fish habitat is limited to a few deep pools at the bases of some waterfalls and behind large boulders while habitat in low-gradient sections of the stream is currently limited due to lack of vegetative cover. Fish migration out of Lake Oroville is blocked at the mouth by a 6-foot-high waterfall over large blocks of dislodged bedrock granite. More barriers exist upstream.

Special Status Biological Resources

The following section addresses special status biological resources that were observed, reported, or have the potential to occur in the Proposed Project location. These resources include plant and wildlife species that have been afforded special status and/or recognition by federal and State resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e., species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss. In addition to species, special status biological resources include vegetation types and habitats that are either unique; of relatively limited distribution in the region; or provide a high value for wildlife. These resources have been defined by federal, State, and local government conservation programs. Sources used to determine the special status of biological resources are listed below.

- ***Habitats –*** the CNDDB (CDFW 2023a); *NatureServe Conservation Status Assessments: Methodology for Assigning Ranks* (Faber-Langendoen et al. 2012); and the *California Natural Communities List* (CDFW 2023d).
- ***Plants –*** the CNDDB (CDFW 2023a); the Inventory of Rare and Endangered Plants (CNPS 2023a); various USFWS *Federal Register* notices regarding listing status of plant species; and the *List of Special Vascular Plants, Bryophytes, and Lichens* (CDFW 2023c).
- ***Wildlife –*** the CNDDB (CDFW 2023a); the California Wildlife Habitat Relationships Database System (CDFW 2014); various USFWS *Federal Register* notices regarding listing status of wildlife species; and the *List of Special Animals* (CDFW 2023b).

Definitions

A federally **Endangered** species is one facing extinction throughout all or a significant portion of its geographic range. A federally **Threatened** species is one likely to become Endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally listed Threatened or Endangered species in a project impact area generally imposes constraints on development, particularly if development would result in “take” of the species or its habitat. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to

engage in such conduct. “Harm” in this sense can include any disturbance of species’ habitats during any portion of its life history.

Federally **Proposed** or **Candidate** species are those officially proposed by the USFWS to be added to the federal Threatened and Endangered species list. Because proposed species may soon be listed as Threatened or Endangered, these species could become listed prior to or during implementation of a proposed project. The presence of a Proposed or Candidate species within a project impact area may impose constraints on development if they are listed prior to issuance of project permits, particularly if a project would result in “take” of the species or its habitat.

The State of California considers an **Endangered** species to be one whose prospects of survival and reproduction are in immediate jeopardy, a **Threatened** species as one present in such small numbers throughout its range that it is likely to become an Endangered species in the near future in the absence of special protection or management, and a **Rare** species as one present in such small numbers throughout its range that it may become Endangered if its present environment worsens. “Rare species” only applies only to California native plants. State-listed Threatened and Endangered species are protected against take unless an Incidental Take Permit is obtained from the resource agencies. The presence of any State-listed Threatened or Endangered species in a project impact area generally imposes constraints on development, particularly if a project would result in “take” of the species or its habitat.

California **Species of Special Concern** is an informal designation used by CDFW for some declining wildlife species that are not State Candidates for listing. This designation does not provide legal protection but signifies that these species are recognized as special status by CDFW. A few years ago, CDFW down-listed several species from Species of Special Concern to the **Watch List**. Although not considered special status, Watch List species are tracked by the CNDDB.

Species that are California **Fully Protected** and **Protected** include those protected by special legislation for various reasons, such as the mountain lion and whitetailed kite (*Elanus leucurus*). Fully Protected species may not be taken or possessed at any time. California Protected species include those species that may not be taken or possessed at any time except under special permit from CDFW issued pursuant to Sections 650 and 670.7 of Title 14 of the California Code of Regulations, or Section 2081 of the Fish and Game Code.

Species of **Local Concern** are those that have no official status with the resource agencies but are being watched because either the region has a unique population, or the species is declining in the region.

Special Animal is a general term that refers to species that the CNDDB is interested in tracking, regardless of legal or protective status. This term includes species designated as any of the above terms but also includes species that may be considered biologically rare; restricted in distribution; declining throughout their range; have a critical,

vulnerable stage in their life cycle that warrants monitoring; are on the periphery of their range and are threatened with extirpation in California; are associated with special status habitats; or are considered by other State or federal agencies or private organizations to be sensitive or declining.

The **CRPR**, formerly known as CNPS List, is a ranking system by the Rare Plant Status Review group[1] and managed by the CNPS and CDFW (CDFW 2023a). A CRPR summarizes information on the distribution, rarity, and endangerment of California's vascular plants. Plants with a CRPR of **1A** are presumed extirpated from the state because they have not been seen in the wild in California for many years and they are either rare or extinct elsewhere. Plants with a CRPR of **1B** are Rare, Threatened, or Endangered throughout their range. Plants with a CRPR of **2A** are presumed extirpated from California but are more common elsewhere. Plants with a CRPR of **2B** are considered Rare, Threatened, or Endangered in California, but are more common elsewhere. Plants with a CRPR of **3** require more information before they can be assigned to another rank or rejected; this is a "review" list. Plants with a CRPR of **4** are of limited distribution or are infrequent throughout a broader area in California; this is a "watch list". The Threat Rank is an extension that is added to the CRPR to designate the plant's endangerment level. An extension of **.1** is assigned to plants that are considered to be "seriously threatened" in California (i.e., over 80 percent of the occurrences are threatened or have a high degree and immediacy of threat). Extension **.2** indicates the plant is "fairly threatened" in California (i.e., between 20 and 80 percent of the occurrences are threatened or have a moderate degree and immediacy of threat). Extension **.3** is assigned to plants that are considered "not very threatened" in California (i.e., less than 20 percent of occurrences are threatened or have a low degree and immediacy of threat or no current threats are known). The absence of a threat code extension indicates that this information is lacking for the plant(s) in question.

In addition to providing an inventory of special status plant and wildlife species, CDFW also provides an inventory of vegetation types that are considered special status by the State and federal resource agencies, academic institutions, and various conservation groups (e.g., the CNPS). Special status natural communities are "of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects"; they may or may not contain special status species (CDFG 2009). Determination of the level of imperilment (i.e., exposure to injury, loss, or destruction) is based on the NatureServe Heritage Program Status Ranks that rank both species and vegetation types on a global and statewide basis according to their rarity, trend in population size or area, and recognized threats (e.g., proposed developments, habitat degradation, and non-native species invasion) (Faber-Langendoen et al. 2012).

[1] This group consists of over 300 botanical experts from the government, academia, non-governmental organizations, and the private sector.

Special Status Vegetation Types

Table 7 lists the vegetation types in the Proposed Project location and cross-walks them to the named Alliances/Associations in *A Manual of California Vegetation* (CNPS 2023b). The Alliances have an assigned global and state rank based on NatureServe (Faber-Langendoen et al. 2012) and the CDFW lists which Associations are considered sensitive natural communities (CDFW 2023d).

TABLE 7
ASSESSMENT OF SENSITIVE NATURAL COMMUNITIES
IN THE PROPOSED PROJECT LOCATION

Vegetation Type or Other Area	CNPS (2023b) Vegetation Alliance(s) and Association(s)	Sensitive Vegetation Community (CDFW 2023d)
Mixed Conifer – Oak Forest	***Pinus ponderosa – Calocedrus decurrens – Pseudotsuga menziesii* Forest and Woodland Alliance**	
	Pinus ponderosa – Pseudotsuga menziesii – Calocedrus decurrens Association	Yes
	Pinus ponderosa – Calocedrus decurrens (mixed conifer) – Quercus chrysolepis/Chamaebatia foliolosa Association	No
	Pinus ponderosa – Calocedrus decurens – Quercus kelloggii Association	No
	***Quercus kelloggii* Forest and Woodland Alliance**	
	Quercus kelloggii – Pseudotsuga menziesii Association	Yes
	Quercus kelloggii – Pseudotsuga menziesii – Acer macrophyllum Association	No
	Quercus kelloggii – Calocedrus decurrens Association	No
	Quercus kelloggii – Pinus ponderosa Association	No

TABLE 7
ASSESSMENT OF SENSITIVE NATURAL COMMUNITIES
IN THE PROPOSED PROJECT LOCATION

Vegetation Type or Other Area	CNPS (2023b) Vegetation Alliance(s) and Association(s)	Sensitive Vegetation Community (CDFW 2023d)
Mixed Chaparral	***Ceanothus integerrimus* Shrubland Alliance**	
	Ceanothus integerrimus – *Arctostaphylos viscida* Association	No
Willow – Alder Riparian Woodland	***Alnus rhombifolia* Forest and Woodland Alliance**	
	Alnus rhombifolia – *Salix laevigata* Association	Yes
	Alnus rhombifolia/*Salix exigua* – (*Rosa californica*) Association	Yes
Disturbed Grasses and Forbs	**Brassica nigra – Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance**	
	Centaurea solstitialis Association	No
	***Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance**	
	Avena barbata – *Avena fatua* Association	No

The mixed conifer – oak forest is considered secure at the global and State levels for both of the Alliances most closely corresponding to the vegetation in the Proposed Project location. Of the seven partially related Associations within the Alliances, two are considered sensitive while five are not considered sensitive by the CDFW (2023d). Given that most Associations are not sensitive, and both the Alliances are considered secure, mixed conifer – oak forest in the Proposed Project location is not considered a sensitive natural community.

The mixed chaparral is considered apparently secure at the global and State level and the Association corresponding to that vegetation is not considered sensitive by the CDFW (2023d). Therefore, the mixed chaparral in the Proposed Project location would not be considered a sensitive natural community.

The willow – alder riparian woodland is considered secure at the global and State levels. However, the Associations with both willow species are considered sensitive by the CDFW (2023d). Therefore, willow – alder riparian woodland in the Proposed Project location would be considered a sensitive natural community. Riparian vegetation types are also often under the regulatory authority of the resource agencies (i.e., USACE, RWQCB, and CDFW).

The disturbed grasses and forbs do not have global or State ranks and the Associations corresponding to that vegetation is not considered sensitive by the CDFW (2023d). Therefore, disturbed grasses and forbs in the Proposed Project location would not be considered a sensitive natural community.

Jurisdictional Resources

Two named, blue-line drainage features occur within the Proposed Project location: Little Sucker Run Creek and Sucker Run Creek. Little Sucker Run Creek is a tributary to Sucker Run Creek and their confluence occurs just upstream of the bridge that is located in the Proposed Project area. Sucker Run Creek drains into the South Fork of the Feather River finger of Lake Oroville, approximately 0.5 mile downstream of the Ponderosa Dam. Both Little Sucker Run Creek and Sucker Run Creek are features under the jurisdiction USACE, RWQCB, and CDFW.

Special Status Plants

Table 8 provides a summary of special status plant species reported to occur in the Project region (i.e., the USGS' Forbestown, Brush Creek, Clipper Mills, Cascade, Oroville Dam, Berry Creek, Challenge, Rackerby, and Bangor 7.5-minute quadrangles). This list includes species reported by the CNDDB and the CNPS, supplemented with species from the surveying Biologist's experience that either occur nearby or could occur based on the presence of suitable habitat. The table includes information on the status, species habitat, and potential for occurrence. Note that these species are listed alphabetically according to their scientific name.

Of the 48 species reported from the Project region, 33 species have potential or limited potential to occur in the Proposed Project location based on the presence of suitable habitat. The remaining 15 species would not be expected to occur because the Proposed Project location lacks suitable habitat or because it is outside the current known geographic or elevation range of the species.

Focused surveys have not been conducted for special status plant species in the Proposed Project location.

Special Status Wildlife

Table 9 provides a summary of special status wildlife species reported to occur in the Project region (i.e., the USGS' Forbestown, Brush Creek, Clipper Mills, Cascade, Oroville Dam, Berry Creek, Challenge, Rackerby, and Bangor 7.5-minute quadrangles).

This list includes species reported by the CNDDB, supplemented with species from the surveying Biologist's experience that either occur nearby or could occur based on the presence of suitable habitat. The table includes information on the status, species habitat, and potential for occurrence. Note that these species are listed taxonomically.

Of the 17 species reported from the Project region, 12 species have potential or limited potential to occur in the Proposed Project location based on the presence of suitable habitat. The remaining five species would not be expected to occur because the Proposed Project location lacks suitable habitat or because it is outside the current known range of the species. The Proposed Project location does not occur within any mapped, federally -designated Critical Habitat.

Focused surveys have not been conducted for special status wildlife species in the Proposed Project location.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Agrostis hendersonii	Henderson's bent grass	—	—	3.2	Mesic valley and foothill grassland and vernal pools between 230 and 1,000 feet above msl.	Not expected to occur; no suitable habitat and at edge of current known elevation range.
Allium jepsonii	Jepson's onion	—	—	1B.2	Serpentinite or volcanic soil in chaparral, cismontane woodland, and lower montane coniferous forest between 985 and 4,330 feet above msl.	Not expected to occur; no suitable soils.
Allium sanbornii var. *sanbornii*	Sanborn's onion	—	—	4.2	Serpentinite or gravelly soil in chaparral, cismontane woodland, and lower montane coniferous forest between 855 and 4,955 feet above msl.	Not expected to occur; no suitable soils.
Arctostaphylos mewukka ssp. *truei*	True's manzanita	—	—	4.2	Chaparral, lower montane coniferous forest, and sometimes roadsides between 1,395 and 4,560 feet above msl.	May occur; suitable habitat.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Balsamorhiza macrolepis	big-scale balsamroot	—	—	1B.2	Serpentinite (sometimes) soil in chaparral, cismontane woodland, and valley and foothill grassland between 150 and 5,100 feet above msl.	Limited potential to occur; characteristic soils not present.
Botrichium ascendens	upswept moonwort	—	—	2B.3	Mesic areas of lower montane coniferous forest and meadows and seeps between 3,660 and 9,990 feet above msl.	Not expected to occur; outside current known elevation range.
Botrichiium minganense	Mingan moonwort	—	—	4.2	Mesic areas of bogs and fens, lower montane coniferous forest, edges of meadows and seeps, and upper montane coniferous forest between 3,905 and 10,795 feet above msl.	Not expected to occur; outside current known elevation range.
Brodiaea sierrae	Sierra foothills brodiaea	—	—	4.3	Serpentinite (usually) and gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest between 165 and 3,215 feet above msl.	Limited potential to occur; characteristic soils not present.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Bulbostylis capillaris	thread-leaved beakseed	—	—	4.2	Lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest between 1,295 and 6,810 feet above msl.	May occur; suitable habitat.
Calycadenia oppositifolia	Butte County calycadenia	—	—	4.2	Openings in granitic (sometimes), serpentinite (sometimes), and volcanic soil in chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland between 295 and 3,100 feet above msl.	Limited potential to occur; characteristic soils not present.
Cardamine pachystigma var. *dissectifolia*	dissected-leaved toothwort	—	—	1B.2	Rocky, serpentinite (usually) soil in chaparral and lower montane coniferous forest between 835 and 6,890 feet above msl.	Limited potential to occur; characteristic soils not present.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Carex cyrtostachya	Sierra arching sedge	—	—	1B.2	Lower montane coniferous forest (mesic), marshes and swamps, meadows and seems, and riparian forest margins between 2,000 and 4,460 feet above msl.	Limited potential to occur; suitable habitat but at edge of current known elevation range.
Carex xerophila	chaparral sedge	—	—	1B.2	Gabbroic and serpentinite soil in chaparral, cismontane woodland, and lower montane coniferous forest between 1,445 and 2,525 feet above msl.	Not expected to occur; no suitable soils.
Clarkia biloba ssp. *brandegeeae*	Brandegee's clarkia	—	—	4.2	Chaparral, cismontane woodland, lower montane coniferous forest, and often roadsides between 245 and 3,000 feet above msl.	May occur; suitable habitat.
Clarkia gracilis ssp. *albicaulis*	white-stemmed clarkia	—	—	1B.2	Serpentinite (sometimes) soils in chaparral and cismontane woodland between 805 and 3,560 feet above msl.	May occur; suitable habitat.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Clarkia mildrediae ssp. *lutescens*	golden-anthered clarkia	—	—	4.2	Often rocky soils in cismontane woodland, openings in lower montane coniferous forest, and roadsides between 900 and 5,740 feet above msl.	May occur; suitable habitat.
Clarkia mildrediae ssp. *mildrediae*	Mildred's clarkia	—	—	1B.3	Granitic (usually) or sandy soil in cismontane woodland and lower montane coniferous forest between 805 and 5,610 feet above msl.	May occur; suitable habitat.
Clarkia mosquinii	Mosquin's clarkia	—	—	1B.1	Rocky areas of cismontane woodland, lower montane coniferous forest, and roadsides between 605 and 4,890 feet above msl.	May occur; suitable habitat.
Claytonia parviflora ssp. *grandiflora*	streambank spring beauty	—	—	4.2	Rocky areas of cismontane woodland between 820 and 3,935 feet above msl.	May occur; suitable habitat.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Cypripedium californicum	California lady's-slipper	—	—	4.2	Serpentinite (usually) soils in bogs and fens, lower montane coniferous forest, seeps, and streambanks between 100 and 9,025 feet above msl.	Not expected to occur; characteristic soils not present and outside the current known geographic range.
Cypripedium fasciculatum	clustered lady's-slipper	—	—	4.2	Serpentinite (usually) soils in lower montane coniferous forest, North Coast coniferous forest, seeps, and streambanks between 330 and 7,990 feet above msl.	Limited potential to occur; characteristic soils not present.
Engellaria obtusa	obtuse starwort	—	—	4.3	Mesic areas in lower montane coniferous forest, riparian woodland, streambanks, and montane coniferous forest between 490 and 7,515 feet above msl.	May occur; suitable habitat.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Eremogone cliftonii	Clifton's eremogone	—	—	1B.3	Granitic (usually) soils in openings of chaparral, lower montane coniferous forest, and upper montane coniferous forest between 1,495 and 6,825 feet above msl.	May occur; suitable habitat.
Erigeron petrophilus var. *sierrensis*	northern Sierra daisy	—	—	4.3	Serpentinite (sometimes) soils in cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest between 985 and 6,800 feet above msl.	Limited potential to occur; characteristic soils not present.
Eriogonum umbellatum var . *ahartii*	Ahart's buckwheat	—	—	1B.2	Serpentinite soils in openings and slopes of chaparral and cismontane woodland between 1,310 and 6,560 feet above msl.	Not expected to occur; no suitable soils.
Erythranthe filicifolia	fern-leaved monkeyflower	—	—	1B.2	Granitic soils in chaparral, lower montane coniferous forest, and ephemeral meadows and seeps between 1,360 and 5,610 feet above msl.	May occur; suitable habitat.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Erythranthe glaucescens	shield-bracted monkeyflower	—	—	4.3	Serpentinite soils in chaparral, cismontane woodland, lower montane coniferous forest, seeps, streambanks (sometimes), and valley and foothill grassland between 195 and 4,070 feet above msl.	Not expected to occur; no suitable soils.
Erythranthe inconspicua	small-flowered monkeyflower	—	—	4.3	Mesic areas of chaparral, cismontane woodland, and lower montane coniferous forest between 900 and 2,495 feet above msl.	May occur; suitable habitat.
Fissidens pauperculus	minute pocket moss	—	—	1B.2	Damp coastal soil in North Coast coniferous forest between 35 and 3,360 feet above msl.	May occur; suitable habitat.
Fremontodendron decumbens	Pine Hill flannelbush	FE	SR	1B.2	Rocky, gabbroic (sometimes), or serpentinite (sometimes) soils in chaparral and cismontane woodland between 1,395 and 2,495 feet above msl.	Limited potential to occur; characteristic soils not present.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Fritillaria eastwoodiae	Butte County fritillary	—	—	3.2	Serpentinite (sometimes) soils in chaparral, cismontane woodland, and openings of lower montane coniferous forest between 165 and 4,920 feet above msl.	May occur; suitable habitat.
Lewisia cantelovii	Cantelow's lewisia	—	—	1B.2	Granitic and serpentinite (sometimes) soils in mesic areas of broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and seeps (sometimes) between 1,085 and 4,495 feet above msl.	Limited potential to occur; characteristic soils not present.
Lilium humboldtii ssp. *humboldtii*	Humboldt lily	—	—	4.2	Openings in chaparral, cismontane woodland, and lower montane coniferous forest between 295 and 4,200 feet above msl.	May occur; suitable habitat.
Lupinus dalesiae	Quincy lupine	—	—	4.2	Openings in chaparral, cismontane woodland, disturbed areas (often), lower montane coniferous forest, and upper montane coniferous forest between 2,805 and 8,205 feet above msl.	Not expected to occur; outside current known elevation range.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Microseris sylvatica	sylvan microseris	—	—	4.2	Serpentinite (rarely) soil in chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, and valley and foothill grassland between 150 and 4,920 feet above msl.	May occur; suitable habitat.
Packera eurycephala var. *lewisrosei*	Lewis Rose's ragwort	—	—	1B.2	Serpentinite soil in chaparral, cismontane woodland, and lower montane coniferous forest between 900 and 6,200 feet above msl.	Not expected to occur; no suitable soils.
Packera layneae	Layne's ragwort	FT	SR	1B.2	Gabbroic (sometimes), serpentinite (sometimes) or rocky soil in chaparral and cismontane woodland between 655 and 3,560 feet above msl.	Limited potential to occur; characteristic soils not present.
Peltigera gowardii	western waterfan lichen	—	—	4.2	Riparian forest between 3,495 and 8,595 feet above msl.	Not expected to occur; outside the current known elevation range.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Perideridia bacigalupii	Bacigalupi's yampah	—	—	4.2	Serpentinite soil in chaparral and lower montane coniferous forest between 1,475 and 4,120 feet above msl.	Not expected to occur; no suitable soils.
Piperia colemanii	Coleman's rein orchid	—	—	4.3	Sandy (often) soil in chaparral and lower montane coniferous forest between 3,935 and 7,545 feet above msl.	Not expected to occur; outside the current known elevation range.
Poa sierrae	Sierra blue grass	—	—	1B.3	Openings in lower montane coniferous forest between 1,200 and 4,920 feet above msl.	May occur; suitable habitat.
Rhynchospora capitellata	brownish beaked-rush	—	—	2B.2	Mesic areas in lower montane coniferous forest, marshes and swamps, meadows and seeps, and upper montane coniferous forest between 150 and 6,560 feet above msl.	May occur; suitable habitat.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Sagittaria sanfordii	Sanford's arrowhead	—	—	1B.2	Shallow, freshwater marshes and swamps, ponds, and ditches between sea level and 2,135 feet above msl.	Limited potential to occur; a limited amount or marginally suitable habitat.
Sanicula tracyi	Tracy's sanicle	—	—	4.2	Openings in cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest between 2,085 and 4,790 feet above msl.	May occur; suitable habitat.
Scytinium siskiyouense	Siskiyou jellyskin lichen	—	—	1B.1	Lower montane coniferous forest and North Coast coniferous forest between 2,085 and 4,790 feet above msl.	Limited potential to occur; suitable habitat but at edge of current known elevation range.

TABLE 8
SPECIAL STATUS PLANT SPECIES REPORTED FROM THE PROJECT REGION

Species	Common Name	Federal Status	State Status	CRPR	Habitat*	Potential to Occur
Sidalcea gigantea	giant checkerbloom	—	—	4.3	Moist slopes, seeps, and stream margins in lower montane coniferous forest and upper montane coniferous forest between 2,200 and 6,400 feet above msl.	Limited potential to occur; suitable habitat but at edge of current known elevation range.
Streptanthus longisiliquus	long-fruit jewelflower	—	—	4.3	Openings in cismontane woodland and lower montane coniferous forest between 2,345 and 4,920 feet above msl.	Limited potential to occur; suitable habitat but at edge of current known elevation range.
Viola tomentosa	felt-leaved violet	—	—	4.2	Gravelly areas in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest between 4,710 and 6,560 feet above msl.	Not expected to occur; outside the current known elevation range.

CRPR: California Rare Plant Rank; msl: mean sea level.

LEGEND:

Federal Status		**State Status**	
FE	Endangered	SR	Rare
FT	Threatened		

CRPR

1A	Plants presumed extirpated in California and either rare or extinct elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2B	Plants Rare, Threatened, or Endangered in California but more common elsewhere
3	Plants about which we need more information – A Review List
4	Plants of limited distribution – A Watch List

CRPR Threat Code Extensions

None	Plants lacking any threat information
.1	Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2	Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3	Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

* Sources include CDFW 2023a, CNPS 2023a, and Jepson Flora Project 2023.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Invertebrates					
Bombus crotchii	Crotch bumble bee	—	CE	The species is a general forager and pollinator of several wildflowers and agricultural crops, including *Aster* spp., *Brassica* spp., *Centaurea* spp., *Cirsium* spp., *Grindelia* spp., *Lathyrus* spp., *Lotus* spp., *Phacelia* spp., *Salix* spp., *Salvia* spp., and *Trifolium* spp. (CDFW 2019). They often nest in abandoned rodent burrows.	May occur; suitable habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Fish					
Mylopharodon concephualus	Hardhead	—	SSC	Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	Not expected to occur; outside current known range/watershed.
Amphibians					
Rana boylii (Population 2)	foothill yellow-legged frog – Feather River DPS	FT	ST	Inhabits partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying.	May occur; suitable habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Rana boylii (Population 3)	foothill yellow-legged frog – North Sierra DPS	—	ST	Inhabits partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying.	Not expected to occur; not reported from Feather River watershed above Oroville.
Rana sierrae	Sierra Nevada yellow-legged frog	FE	ST	Inhabits lakes, ponds, meadow streams, isolated pools, and sunny riverbanks in the Sierra Nevada Mountains. Always encountered within a few feet of water.	Not expected to occur; outside current known range.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Rana draytonii	California red-legged frog	FT	SSC	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	May occur; suitable habitat.
Spea hammondii	western spadefoot	FPT	SSC	Breeds in vernal pools in grassland habitats, but also hardwood woodlands.	Not expected to occur; outside current known range.
Reptiles					
Actinemys [Emys] marmorata	northwestern pond turtle	FPT	SSC	Inhabits marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation and basking sites and suitable upland habitat.	May occur; suitable habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Birds					
Cypseloides niger	black swift	—	SSC (nesting)	Nests in dark inaccessible sites with unobstructed flight paths on ledges or shallow caves in steep rock faces and canyons, usually behind or next to waterfalls.	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; no suitable nesting habitat.
Laterallus jamaicensis coturniculus	California black rail	—	ST, FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays.	Not expected to occur; no suitable habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Pandion haliaetus	osprey	—	WL (nesting)	Inhabits ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Limited potential to occur for foraging and nesting; marginally suitable foraging and nesting habitat.
Haliaeetus leucocephalus	bald eagle	Delisted	SE, FP (nesting & wintering)	Nests in large, old growth trees with open branches near water. Forages along ocean shore, lake margins, and rivers.	May occur as a flyover. Limited potential to occur for foraging; marginally suitable foraging habitat. Limited potential to occur for nesting; marginally suitable nesting habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Accipiter gentilis	northern goshawk	—	SSC (nesting)	Found within, and in vicinity of, coniferous forest. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	May occur for foraging; suitable foraging habitat. Limited potential to occur for nesting; marginally suitable nesting habitat.
Mammals					
Lasiurus frantzii	western red bat	—	SSC	Riparian habitat near water. Roosts exclusively in trees, particularly sycamore, cottonwood, ash, and elderberry.	May occur for foraging; suitable foraging habitat. May occur for roosting; suitable roosting habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Corynorhinus townsendii	Townsend's big-eared bat	—	SSC	Found throughout California in a wide variety of habitats. Roosts in the open, hanging from walls and ceilings.	May occur for foraging; suitable foraging habitat. Not expected to occur for roosting; no suitable roosting habitat.
Antrozous pallidus	pallid bat	—	SSC	Inhabits deserts, grasslands, shrublands, woodlands and forest. Most common in open, dry habitats with rocky areas for roosting.	May occur for foraging; suitable foraging habitat. Limited potential to occur for roosting; a limited amount of marginally suitable roosting habitat.

TABLE 9
SPECIAL STATUS WILDLIFE SPECIES REPORTED FROM THE PROJECT VICINITY

Species	Common Name	Federal Status	State Status	Habitat*	Potential to Occur in the Proposed Project location
Pekania pennanti	fisher	—	SSC	Inhabits Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs, and rocky areas for cover and denning. Needs large areas of mature, dense forest.	Limited potential to occur; marginally suitable habitat.

LEGEND:

Federal (USFWS)
FE Endangered
FT Threatened
FPT Proposed Threatened

State (CDFW)
SE Endangered
ST Threatened
CE Candidate Endangered
FP Fully Protected
SSC Species of Special Concern
WL Watch List

* Sources include CDFW 2023a and 2023b.

ANALYSES

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 Wildlife or U.S. Fish and Wildlife Service?

Special Status Plant Species

Less than Significant with Mitigation Incorporated. Of the 48 species reported in CNDDB or other sources described above, from the Proposed Project region, 30 species have potential or limited potential to occur in the impact areas for the Proposed Project based on the presence of suitable or marginally suitable habitat. The remaining 18 species would not be expected to occur because the Proposed Project's impact area lacks suitable habitat or because it is outside the current known geographic or elevation range of the species. Impacts to special status plants have the potential to occur from activities included in the Proposed Project such as access improvements and removal of the Kanaka Powerhouse. Specific actions such as trucking, grubbing previously disturbed areas, debris removal and stockpiling of materials have the potential to impact special status plants. However, the Proposed Project contemplates using areas that are currently disturbed and previously used for the Hydroelectric Project activities.

Two federally listed plant species and 11 other plant species with a CRPR of 1 or 2 have potential or limited potential to occur in the mixed conifer-oak forest, mixed chaparral, or disturbed grasses and forbs portions of the Proposed Project location based on the presence of suitable or marginally suitable habitat. The portion of these vegetation types that would be impacted by the Proposed Project have limited potential to support these plant species due to previous grading and soil compaction associated the remnant access roads. Regardless, the following plant species could not be confirmed to be absent during the reconnaissance-level surveys performed for this report: big-scale balsamroot (*Balsamorhiza macrolepis*), dissected-leaved toothwort (*Cardamine pachystigma var. dissectifolia*), white-stemmed clarkia (*Clarkia gracilis ssp. albicaulis*), Mildred's clarkia (*Clarkia mildrediae ssp. mildrediae*), Mosquin's clarkia (*Clarkia mosquinii*), Clifton's eremogone (*Eremogone cliftonii*), fern-leaved monkeyflower (*Erythranthe filicifolia*), minute pocket moss (*Fissidens pauperculus*), Pine Hill flannelbush (*Fremontodendron decumbens*), Cantelow's Lewisia (*Lewisia cantelovii*), Layne's ragwort (*Packera layneae*), Sierra blue grass (Poa sierrae), and Siskiyou jellyskin lichen (*Scytinium siskiyouense*). Impacts on federally or State listed species are considered potentially significant. Impacts on species with a CRPR of 1 or 2 would be considered potentially significant depending on the size of the impacted population relative to the total known from the region. Surveys performed during the respective plant's blooming periods would be needed to confirm the absence of these species in the Proposed Project's impact area. Therefore, **MM BIO-1** as described below would be implemented, which requires that a focused botanical survey be conducted prior to construction, or that the special status plants are presumed present, and requires measures to avoid any special status plants.

Seventeen special status plants that have potential or limited potential to occur in the Proposed Project location have a CRPR of 3 or 4. These species are: True's manzanita (*Arctostaphylos mewukka* ssp. *truei*), Sierra foothills brodiaea (*Brodiaea sierrae*), thread-leaved beakseed (*Bulbostylis capillaris*), Butte County calycadenia (*Calycadenia oppositifolia*), Brandegee's clarkia (*Clarkia billoba* ssp. *brandegeeae*), golden-anthered clarkia (*Clarkia mildrediae* ssp. *lutescens*), streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*), clustered lady's-slipper (*Cypripedium fasciculatum*), obtuse starwort (*Engellaria obtusa*), northern Sierra daisy (*Erigeron petrophylus* var. *sierrensis*), small-flowered monkeyflower (*Erythranthe inconspicua*), Butte County fritillary (*Fritillaria eastwoodiae*), Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*), sylvan microseris (*Microseris sylvatica*), Tracy's sanicle (*Sanicula tracyi*), giant checkerbloom (*Sidalcea gigantea*), and longfruit jewelflower- (*Streptanthus longisiliquus*). Impacts on species with a CRPR of 3 or 4 are not typically considered significant because they are on a "review" or "watch" list, respectively, and not considered Rare, Threatened, or Endangered in California or throughout their range. Given the limited amount of impacts relative to the amount of habitat in the region, impacts on these species, if present, have the potential to result in adverse impacts. But with implementation of MM BIO-1 the surveys, protection barriers and potential compensatory mitigation as described by the mitigation measure if any special status species are shown to be present will ensure that the impact would be less than significant with mitigation incorporated.

Special Status Wildlife Species

Invertebrates

Crotch bumble bee has potential to occur in the Proposed Project location. Suitable habitat for this species is present throughout the Proposed Project location. Focused surveys would be required to determine the presence of this species in the Proposed Project location. A total of 2.29 acres of suitable habitat (i.e., all habitats except developed) for the Crotch bumble bee would be impacted as a result of the Proposed Project. Specific actions such as trucking, grubbing, debris removal and stockpiling of materials have the potential to impact special status wildlife. This species is a Candidate for State listing; therefore, if present, impacts on this species would be considered potentially significant. Therefore, the Proposed Project would implement **MM BIO-2**, which requires STS to conduct focused surveys for Crotch bumble bee and to implement avoidance of active nest burrows during construction, if any are found, as well as consultation with the CDFW. With implementation of MM BIO-2 the impact would be less than significant with mitigation incorporated.

Amphibians

Two federally and/or State listed amphibian species, foothill yellow-legged frog (North Sierra DPS) (*Rana boylii* Population 3) and Sierra Nevada yellow-legged frog (*Rana sierrae*), as well as one amphibian species proposed for federal listing, western spadefoot (*Spea hammondii*), are not expected to occur in the Proposed Project location due to lack of suitable habitat or because the Proposed Project location is outside the

current known range of the species. There would be no impacts on these species, and no mitigation would be required.

Two federally and/or State-listed amphibian species, foothill yellow-legged frog (Feather River DPS) (*Rana boylii* Population 2) and California red-legged frog (*Rana draytonii*), have potential to occur in the Proposed Project location. No impacts to any suitable breeding habitat would occur as a result of the Proposed Project; however, a total of 2.29 acres of upland habitat (i.e., all habitats except developed) have potential to be temporarily impacted. Specific actions such as trucking, grubbing of previous disturbed areas, debris removal and stockpiling of materials have the potential to impact special status wildlife. Impacts to federally or State-listed species are considered significant. If either species is present, Proposed Project activities would have potential to directly impact individuals traversing the impact area for the Proposed Project. Implementation of **MM BIO-3** and **MM BIO-4,** would reduce potential impacts on special status amphibians to less than significant, and would require a qualified biologist to conduct focused surveys prior to Proposed Project activities for foothill yellow-legged frog and California red-legged frog to confirm absence. The qualified biologist shall identify sensitive locations to be protected with orange construction fencing or similar high visibility materials and place stakes to indicate these locations. The qualified biologist shall make bi-weekly visits to the Project Area to ensure that environmentally sensitive areas continue to remain protected. If observed on site during construction work shall stop until the animal leaves of its own desire. With implementation of MM BIO-3 and MM BIO-4 the impact would be less than significant with mitigation incorporated.

Reptiles

Northwestern pond turtle has potential to occur in riparian and open water habitats throughout the Proposed Project location. No impacts to any wetted habitat would occur as a result of the Proposed Project; however, a total of 1.17 acres of upland habitat (i.e., previously disturbed grasses and forbs) have potential to be temporarily impacted. Specific actions such as trucking, grubbing, debris removal and stockpiling of materials have the potential to impact special status wildlife. The northwestern pond turtle is proposed to be listed as a federally Threatened species; it is considered to meet the criteria of Section 15380 of the CEQA Guidelines to be treated as if it were Threatened or Endangered under CEQA even though it is not yet formally listed by the resource agencies. Therefore, these impacts would be considered potentially significant. Implementation of **MM BIO-5** would reduce any construction related impacts to less than significant levels, which requires a qualified biologist to conduct focused surveys prior to Proposed Project activities for northwestern pond turtle to confirm absence and to identify environmentally sensitive areas with orange construction fencing or other high visibility materials and shall place stakes to indicate these locations. The qualified biologist shall make bi-weekly visits to the Project Area to ensure that environmentally sensitive areas continue to remain protected.. If observed on site during construction work shall stop until the animal leaves of its own desire. With implementation of MM BIO-5 the impact would be less than significant with mitigation incorporated.

Birds

The California black rail (*Laterallus jamaicensis coturniculus*) is State-listed Threatened and Fully Protected species but that has been previously found in the Project vicinity. However based on the habitat associated with the California black rail, which primarily includes tidal wetlands and marshlands it is not expected to occur in the Proposed Project location due to lack of suitable habitat. There would be no impacts on this species, and no mitigation would be required.

Bald eagles (*Haliaeetus leucocephalus*), a State-listed Endangered and Fully Protected, species has limited potential to occur for foraging and nesting in the Proposed Project location. Removal of trees is not expected to occur; therefore, there would be no direct impact on nesting habitat or active nests. Indirect impacts associated with construction noise and vibration have potential to impact nesting activities if they are occurring in the near vicinity. With implementation of **MM BIO-6**, which requires a preconstruction nesting bird survey be conducted if vegetation clearing and ground disturbing activities are initiated during the breeding season for nesting birds/raptors (i.e., February 15–August 31), effects related to nesting birds and raptors would be reduced to less than significant levels. If nesting birds are found within or adjacent to construction activities a buffer zone shall be established around the nest and access shall be restricted in the buffer area until a qualified biologist has determined the fledglings have left the nest or the nest fails.

Two California Species of Special Concern, black swift (*Cypseloides niger*) and northern goshawk (*Accipiter gentilis*), and one Watch List species, osprey (*Pandion haliaetus*), have potential or limited potential to occur for foraging in the Proposed Project location. Osprey and northern goshawk have potential to nest within the mixed conifer – oak forest portions of the Proposed Project location. No removal of potential nest trees is expected as part of the Proposed Project; subsequently, there would be no direct impact on nesting habitat or active nests are anticipated. Indirect impacts associated with construction (such as noise and human presence) have potential to impact nesting activities if they are occurring in the near vicinity. With implementation of **MM BIO-6**, which requires a preconstruction nesting bird survey to be conducted if vegetation clearing and ground disturbing activities are initiated during the breeding season for nesting birds/raptors (i.e., February 15–August 31), effects related to nesting birds and raptors would be reduced to less than significant levels. If nesting birds are found within or adjacent to construction activities a buffer zone shall be established around the nest and access shall be restricted in the buffer area until a qualified biologist has determined the fledglings have left the nest or the nest fails.

Mammals

Fisher (*Pekania pennanti*), a California Species of Special Concern, has limited potential to occur in the Proposed Project location. Given the limited amount of habitat loss relative to the amount of habitat in the region, impacts on this species habitat would be considered adverse but less than significant, and no mitigation would be required.

Three special status bat species have potential to forage in the Proposed Project location: western red bat (*Lasiurus frantzii*), Townsend's big-eared bat (*Corynorhinus townsendii*), and pallid bat (*Antrozous pallidus*). Given the limited amount of habitat loss relative to the amount of habitat in the region, impacts on this species habitat would be considered adverse but less than significant, and no mitigation would be required.

Western red bat and pallid bat also have potential or limited potential to occur for roosting in trees in the Proposed Project location. However, the Proposed Project does not include removal of trees and only proposed minor grubbing of existing disturbed facilities. For these reasons removal of suitable roosting trees is not expected to occur as a result of the Proposed Project; therefore, there would be no direct impact on roosting habitat.

To provide additional layers of protection, and in support of all the aforementioned mitigations, **MM BIO-7** and **MM BIO-8** will be implemented to create clearly delineated boundaries for the proposed work areas and provide Environmental Awareness Training for all personnel that will be working on site.

Conclusion

With implementation of **MM BIO-1** through **MM BIO-8**, the Proposed Project would result in a less than significant impact related to this threshold.

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 Wildlife or U.S. Fish and Wildlife Service?

Sensitive Natural Communities

No Impact. The Proposed Project would require the removal of limited vegetation within the Proposed Project location, as detailed in Table 10.

TABLE 10
IMPACTS TO VEGETATION TYPES AND OTHER AREAS

Vegetation Type or Other Area	Total Vegetation in the Proposed Project location (acres)	Project Related Vegetation Impacts (acres)
Mixed Conifer – Oak Forest	31.06	0.45
Mixed Chaparral	169.51	0.67
Willow – Alder Riparian Woodland	7.96	–
Disturbed Grasses and Forbs	2.23	1.17
Disturbed	6.10	0.04
Total	**216.86 acres**	**2.33 acres**

A total of 0.45-acre of mixed conifer – oak forest would be impacted by the Proposed Project. This vegetation type is not considered a sensitive natural community by the CDFW. Further, impacts of the Proposed Project would only occur within portions of the mixed conifer – oak forest that were previously developed: specifically, previously graded but currently unmaintained access roads that now support understory vegetation. Some trimming of adjacent or downed tree limbs would be needed but no removal of large or otherwise mature trees would occur. Impacts on this vegetation type would be considered less than significant, and no mitigation would be required.

A total of 0.67-acre of mixed chaparral would be impacted by the Proposed Project. This vegetation type is not considered a sensitive natural community by the CDFW. Further, the Proposed Project's impacts would only occur within portions of the mixed chaparral that were previously developed; specifically, previously graded but currently unmaintained access roads that now support low-growing vegetation. Impacts on this vegetation type would be considered less than significant, and no mitigation would be required.

No trimming or other impacts to the willow – alder riparian woodland would occur as part of the Proposed Project. This vegetation type is considered a sensitive natural community by the CDFW, and it provides high quality habitat for native species. No impacts to this vegetation type are anticipated, and no mitigation would be necessary.

A total of 1.17 acres of disturbed grasses and forbs would be impacted by the Proposed Project. This vegetation type is not considered a sensitive natural community by the CDFW. Further, impacts from the Proposed Project will only occur within portions of the disturbed grasses and forbs that were previously developed; specifically, a previously cleared and graded staging area that now supports vegetation. Impacts on this vegetation type would be considered less than significant, and no mitigation would be required.

A total of 0.01-acre of disturbed area would be impacted by the Proposed Project. This area is not considered a sensitive natural community by CDFW. Because this area consists of maintained dirt roads or otherwise developed areas, impacts to this area would be considered less than significant, and no mitigation would be required.

In summary, the Proposed Project would not result in any impacts to sensitive natural communities.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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?

Less than Significant with Mitigation Incorporated. The Proposed Project would occur immediately adjacent to Sucker Run Creek and Little Sucker Run Creek, which are two features jurisdictional to the USACE, RWQCB, and CDFW; however, no direct impact to either of these features is anticipated. Indirect impacts, such as pollutant runoff, may occur during construction activities and these impacts could be significant without implementation of mitigation measures.

Therefore, as required by **MM BIO-7,** the boundary between Sucker Run Creek and the construction work area will be clearly delineated.

Also, as required by **MM WQ-1 and MM WQ-3,** STS would develop and implement a Dewatering and Water Quality Monitoring Plan and Erosion, Sediment and Hazardous Materials Control Measures, which would identify water quality-related best management practices that would be implemented by STS during construction.

With implementation of **MM BIO-7**, **MM WQ-1 and MM WQ-3**, the Proposed Project would result in a less than significant impact related to this threshold.

d) Would the Proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant with Mitigation Incorporated. Native and non-native vegetation support or provide valuable nesting, foraging, roosting, and denning opportunities for a variety of wildlife species. A total of 1.12 acres of native vegetation types (including mixed conifer – oak forest, and mixed chaparral) would be removed to conduct the Proposed Project. Additionally, a total of 1.17 acres of non-native vegetation (i.e., disturbed grasses and forbs) would be removed. Removing or altering habitats would likely result in the loss of small mammals, reptiles, amphibians, and other slow-moving wildlife that live in the direct impact area for the Proposed Project. More mobile wildlife

species that are now using these areas would be forced to move into adjacent areas of open space, which would increase competition for available resources in those areas. This situation would result in the loss of individuals that cannot successfully compete. The loss of wildlife habitat relative to the availability of habitat in the vicinity of the Proposed Project location would be limited in relation to the total amount of wildlife habitat available in the Project region. Therefore, it would not be expected to reduce populations of common wildlife species below self-sustaining levels in the Project region.

The Proposed Project would leave the existing Kanaka Dam in place following surrender of the FERC license. Implementation of the Proposed Project and leaving the existing Kanaka Dam in place would not result in any new impacts to movement of aquatic species. Under existing conditions, diversions for power generation have ceased natural flow passed over or through Kanaka Dam. Additionally, the stream channel directly downstream of Kanaka Dam has an approximate slope of ten degrees and is composed of a series of pools and waterfalls. Fish passage is further impeded by an approximately 6-foot waterfall at the terminus of Sucker Run Creek where the creek spills into Lake Oroville. For these reasons, leaving the Kanaka Dam in place will have no impact on fish passage as compared to existing conditions.

Several common bird species have the potential to nest in vegetation, on the ground, or in structures on and adjacent to the impact areas for the Proposed Project. Common raptor species also have potential to nest in large trees and snags adjacent to the impact areas for the Proposed Project. The loss of an active migratory bird or raptor nest, including nests of common or special status species, would be considered a violation of the MBTA and Sections 3503, 3503.5, and 3513 of the Fish and Game Code. The MBTA and Fish and Game Code prohibit the taking of migratory birds, nests, and eggs. The potential loss of an active nest would be considered significant. Implementation of **MM BIO-6** would require pre-construction surveys and avoidance of active nests to ensure that construction would not violate the provisions of the MBTA or California Fish and Game Code.

The Proposed Project location is contiguous with large undeveloped open space areas with the Plumas National Forest Boundary located to the north, south, and east. Given the limited impacts and the nature of the Proposed Project, the Proposed Project is not expected to impact regional movement.

Wildlife is expected to use the ridgelines, drainages, and slopes for local travel routes. The Proposed Project would not create any new barriers to wildlife movement. Construction activities may deter wildlife from the immediate area, but these activities would be temporary and would not significantly interfere with local wildlife movement. Construction activities would be limited to upland areas and no physical changes to the drainage features are anticipated as part of the Proposed Project.

In summary, with implementation of **MM BIO-6,** the Proposed Project would result in a less than significant impact related to this threshold.

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

No Impact. The Proposed Project would not require the removal of any trees. Therefore, the Proposed Project would have no potential to conflict with any existing tree preservation policies or ordinances.

Therefore, the Proposed Project would result in no impacts related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project location is not located within the boundaries of an adopted Habitat Conservation Plan, a Natural Community Conservation Plan, or any other approved local, regional, or state habitat conservation plan.

Therefore, the Proposed Project would result in no impacts related to this threshold, and no mitigation is required.

Mitigation Measures

MM BIO-1 To avoid the removal or disturbance of special status plants, a qualified biologist[2] shall conduct a focused survey for CRPR 1 and 2 special status plant species with potential to exist in the Proposed Project area in May and July. CRPR 3 and 4 species will be incidentally observed during the focused CRPR 1 and 2 surveys. CRPR 1 and 2 special status plant species may include; big-scale balsamroot (Balsamorhiza *macrolepis*), dissected-leaved toothwort (*Cardamine pachystigma var. dissectifolia*), white-stemmed clarkia (*Clarkia gracilis ssp. albicaulis*), Mildred's clarkia (*Clarkia mildrediae ssp. mildrediae*), Mosquin's clarkia (*Clarkia mosquinii*), Clifton's eremogone (*Eremogone cliftonii*), fern-leaved monkeyflower (*Erythranthe filicifolia*), minute pocket moss (*Fissidens pauperculus*), Pine Hill flannelbush (*Fremontodendron decumbens*), Cantelow's Lewisia (*Lewisia cantelovii*), Layne's ragwort (*Packera layneae*), Sierra blue grass (Poa sierrae), and Siskiyou jellyskin lichen (*Scytinium siskiyouense*). CRPR 3 and 4 special plant species include; True's manzanita (*Arctostaphylos mewukka* ssp. *truei*), Sierra foothills brodiaea (*Brodiaea sierrae*), thread-leaved beakseed (*Bulbostylis capillaris*), Butte County calycadenia (*Calycadenia oppositifolia*), Brandegee's clarkia (*Clarkia billoba* ssp. *brandegeeae*), golden-anthered clarkia (*Clarkia mildrediae* ssp. *lutescens*), streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*), clustered lady's-slipper

[2] A qualified biologist is defined as a person who is knowledgeable and experienced in the biology, life stages, natural history, and identification of local fish and wildlife resources present at the Project site.

(*Cypripedium fasciculatum*), obtuse starwort (*Engellaria obtusa*), northern Sierra daisy (*Erigeron petrophylus* var. *sierrensis*), small-flowered monkeyflower (*Erythranthe inconspicua*), Butte County fritillary (*Fritillaria eastwoodiae*), Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*), sylvan microseris (*Microseris sylvatica*), Tracy's sanicle (*Sanicula tracyi*), giant checkerbloom (*Sidalcea gigantea*), and longfruit jewelflower (*Streptanthus longisiliquus*). The survey shall be performed during May and July to target species' peak blooming period, or during a period where the species can be differentiated from other similar plant species, in accordance with the most current protocols approved by the CDFW, USFWS and the CNPS, as applicable. If focused surveys determine that no special status plant species are present in the impact area for the Proposed Project, then no future measures are necessary. If focused surveys determine that a special status plant species is present, or the species is presumed present, then STS shall take the following actions:

- If any plant species listed as threatened or endangered by FESA is determined to be present or presumed present, the qualified biologist will establish appropriate exclusion buffers around the threatened or endangered species and no work will occur within the established buffer area.
- If construction timing for the Proposed Project requires that ground disturbance of potentially suitable habitat be performed prior to the species' peak blooming period and focused surveys cannot be performed, then the species shall be presumed present in the impact area and appropriate exclusion buffers will be established around the presumed present species' habitat.
- If take of individuals cannot be avoided (due to location within the Proposed Project), then STS shall obtain take authorization from the listing agencies before impacting the species (FESA Consultation with the USFWS). Consultation with the listing agencies shall determine the appropriate compensatory measure(s) to reduce impacts on the species.
- If focused surveys determine that California Native Plant Rank (CNPR) List 1 or List 2 species are present and the necessary take of state listed individuals would be greater than ten percent of species' population within a one-mile radius of the Proposed Project location, then compensatory mitigation shall be required. Mitigation may include seed collect from individuals in the impact area and planting them within an alternative site with the appropriate microhabitat for this species or other measures as determined in consultation with (CDFW). If construction timing for the Proposed Project requires that ground disturbance of potentially suitable habitat be performed prior to the species' peak blooming period and focused surveys cannot be performed, then the species shall be presumed present in the impact area and STS, in consultation with (CDFW) shall determine if take of individuals would be

greater than ten percent of species populations within a one-mile radius of the Proposed Project location, and if so, implement compensatory mitigation, as described above.

MM BIO-2 Prior to ground disturbance or vegetation trimming or removal, a qualified biologist shall conduct a focused survey for Crotch bumble bee in the Proposed Project area during the Active Colony Period (April – August) following CDFW (2023e) survey guidelines. Per these guidelines, survey results are valid for only the year they are conducted. A Letter Report shall be prepared by STS to document the results of the pre-construction surveys and shall be provided to CDFW and SWRCB within 30 days of completion of the survey. If no Crotch bumble bee are observed, no further action will be required prior to the next active season (i.e., the following March).

If Crotch bumble bee is present, STS shall propose site-specific measures to CDFW to avoid take prior to performing Proposed Project construction activities where take has potential to occur. Following CDFW approval, STS shall implement the site-specific measures. If a ground nest is observed, it shall be protected in place until it is no longer active as determined by the qualified Biologist. An initial protective buffer of at least 100 feet shall be established around the active ground nest until CDFW can be consulted and the buffer adjusted or additional measures implemented as determined in consultation by CDFW. STS shall coordinate with CDFW to determine if an Incidental Take Permit under Section 2081 of the California ESA will be required. A qualified Biologist shall determine the protective buffer distance needed depending on the location with respect to construction activities and the type of construction activities occurring; CDFW shall approve the protective buffer distance needed.

If construction is not initiated in the season following the focused surveys (i.e., prior to the next active season the following March), or if construction unexpectedly continues for a second season, the focused surveys shall be conducted again per CDFW (2023e) protocol requirements.

MM BIO-3 To avoid potential injury, mortality or disturbance of California red-legged frog, presence shall be assumed. Pre-constructions surveys within the impact area and a 500-foot buffer zone will be surveyed by a qualified biologist[3] no more than three days prior to the start of construction. The qualified biologist shall identify sensitive locations to be protected with orange construction fencing or other high visibility materials and shall place stakes to indicate these locations. The protected areas shall be

[3] A qualified biologist is defined as a person who is knowledgeable and experienced in the biology, life stages, natural history, and identification of local fish and wildlife resources present at the Project site.

designated as environmentally sensitive areas and clearly identified on the construction plans or resource protection exhibit, which shall be prepared after the site review with the contractor and prior to construction. A qualified biologist shall make regular bi-weekly visits to the Proposed Project area to ensure that environmentally sensitive areas continue to remain protected, provide environmental awareness training to new crew members, and determine if general restrictions and guidelines are being followed. Trained STS staff and/or site contractors trained by a qualified biologist shall perform daily surveys in the scheduled construction areas before any work begins each day. If California red-legged frogs are identified or believed to be present during these surveys, construction activities shall pause within a 100-foot vicinity, and a qualified biologist will dispatch to the site to confirm the identification and to provide further guidance on how to proceed safely ,which shall include allowing the California red-legged frog to leave the project work area on its own volition prior to re-initiating construction activities.

MM BIO-4 To avoid potential injury, mortality or disturbance of foothill yellow-legged frogs, presence shall be assumed. Pre-constructions surveys within the impact area and a 500-foot buffer zone will be surveyed by a qualified biologist[4] no more than three days prior to the start of construction. The qualified biologist shall identify sensitive locations to be protected with orange construction fencing or other high visibility materials and shall place stakes to indicate these locations. The protected areas shall be designated as environmentally sensitive areas and clearly identified on the construction plans or resource protection exhibit, which shall be prepared after the site review with the contractor and prior to construction. A qualified biologist shall make regular bi-weekly visits to the Proposed Project area to ensure that environmentally sensitive areas continue to remain protected, provide environmental awareness training to new crew members, and determine if general restrictions and guidelines are being followed. Trained STS staff and/or site contractors trained by a qualified biologist shall perform daily surveys in the scheduled construction areas before any work begins each day. If foothill yellow-legged frogs are identified or believed to be present during these surveys, construction activities shall pause within a 100-foot vicinity, and a qualified biologist will dispatch to the site to confirm the identification and to provide further guidance on how to proceed safely with project activities, which shall include allowing the Foothill Yellow-legged frog to leave the project work area on its own volition prior to re-initiating construction activities.

[4] A qualified biologist is defined as a person who is knowledgeable and experienced in the biology, life stages, natural history, and identification of local fish and wildlife resources present at the Project site.

MM BIO-5 To avoid potential injury or mortality of northwestern pond turtles, presence shall be assumed. Pre-constructions surveys within the impact area and a 500-foot buffer zone will be surveyed by a qualified biologist[5] no more than three days prior to the start of construction. The qualified biologist shall identify sensitive locations to be protected with orange construction fencing or other high visibility materials and shall place stakes to indicate these locations. The protected areas shall be designated as environmentally sensitive areas and clearly identified on the construction plans or resource protection exhibit, which shall be prepared after the site review with the contractor and prior to construction. A qualified biologist shall make regular bi-weekly visits to the Proposed Project area to ensure that environmentally sensitive areas continue to remain protected, provide environmental awareness training to new crew members, and determine if general restrictions and guidelines are being followed. Trained STS staff and/or site contractors trained by a qualified biologist shall perform daily surveys in the scheduled construction areas before any work begins each day. If northwestern pond turtles are identified or believed to be present during these surveys, construction activities shall pause within a 100-foot vicinity, and a qualified biologist will be dispatched to the site to confirm the identification and to provide further guidance on how to proceed safely with project activities prior to re-initiating construction activities.

MM BIO-6 To avoid potential disturbance of nesting birds, if vegetation clearing and ground disturbing activities are initiated during the breeding season for nesting birds/raptors (i.e., February 15–August 31), a pre-construction survey shall be conducted by a qualified biologist for nesting birds and/or raptors within three days prior to clearing of any vegetation or any work near existing structures. The nesting bird survey area shall include a buffer of 100 feet around the work area for nesting birds and a buffer of 500 feet around the work area for nesting raptors. If the qualified biologist does not find any active nests within or immediately adjacent to the impact area, the vegetation clearing and construction work shall be allowed to proceed.

Disturbance to native vegetation will be limited to the construction area and necessary access routes and staging areas. Existing native vegetation will be retained as practicable.

If the qualified biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the qualified biologist shall delineate an appropriate buffer zone around the nest depending on the

[5] A qualified biologist is defined as a person who is knowledgeable and experienced in the biology, life stages, natural history, and identification of local fish and wildlife resources present at the Project site.

sensitivity of the species and the nature of the construction activity. The active nest shall be protected until nesting activity has ended. To protect any nest site, the following restrictions to construction activities shall be required until the nest is no longer active, as determined by a qualified biologist: (1) clearing limits shall be established within a protective buffer around any occupied nest (the protective buffer shall be 15–100 feet for nesting birds, and 300–500 feet for special status bird species or nesting raptors), and (2) access and surveying shall be restricted within the protective buffer of any occupied nest. Encroachment into the protective buffer around a known nest shall only be allowed if the qualified biologist determines that the proposed activity would not disturb the nest occupants. Construction can proceed when the qualified biologist has determined that fledglings have left the nest, or the nest has failed.

MM BIO-7 To avoid and minimize impacts to waters of the United States and waters of the state, the Proposed Project's boundaries adjacent to Sucker Run Creek shall be clearly delineated to minimize the work area and avoid the potential for inadvertent work to occur outside the work area or unnecessarily in the waterway.

MM BIO-8 Environmental Awareness Training: The training program shall present the environmental regulations and applicable permit conditions that the Proposed Project site team shall comply with. The training program shall include applicable measures established for the Proposed Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel, as needed. Dated sign-in sheets for attendees at these meetings shall be maintained at the Proposed Project site, which will be shared with State Water Board staff.

MM WQ-1 STS shall develop and submit a Dewatering and Water Quality Monitoring Plan (Dewatering/Monitoring Plan) to the Deputy Director of the Division of Water Rights of the State Water Board for review and approval. The Dewatering/Monitoring Plan shall be developed to protect water quality objectives and beneficial uses from impacts resulting from Proposed Project activities, such alterations in turbidity, dissolved oxygen, pH, and temperature. At a minimum, the Dewatering/Monitoring Plan shall include:

- A minimum of two monitoring locations that shall be located above and below the Proposed Project activity sites.
- Monitoring frequency, and duration.
- Water quality monitoring for turbidity, pH, dissolved oxygen, and temperature.

- Report requirements and frequency of reporting to the State Water Board.

- Adaptive management actions or procedures that STS shall implement if water quality objectives are determined to be adversely impacted by the Proposed Project. Adaptive management procedures will include stopping Project activities causing the water quality exceedance, if an exceedance occurs.

STS shall not commence construction until the State Water Board Deputy Director of the Division of Water Rights approves the Dewatering and Water Quality Monitoring Plan.

MM WQ-3 To minimize the potential water quality effects of the Proposed Project and to maintain compliance with SJR/SR Basin Plan water quality objectives and associated beneficial uses, STS shall develop a list of Erosion, Sediment and Hazardous Materials Control Measures. The Erosion, Sediment, and Hazardous Materials Control Measures shall include BMPs to address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs shall be based on the best available technology. At a minimum, the Erosion, Sediment, and Hazardous Materials Control Measures shall include:

- Description of site characteristics, including runoff, streamflow, and soil erosion characteristics.

- Description of construction procedures.

- Guidelines for proper application of erosion and sediment control BMPs.

- Description of measures for temporary storage of hazardous materials.

- Description of measures to control toxic materials spills.

- Description of construction site housekeeping practices.

- Hazardous Material Spill and Discharge Reporting.

- A list that shall include BMPs from all the various plans and permits associated with the Project, including but not limited to Construction General Permits.

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

ENVIRONMENTAL SETTING

A Northeast Information Center (NIC) cultural resources literature review and records search, and a pedestrian field survey were completed for the Proposed Project location by J.P. Manning in 1984 prior to the construction of the dam in 1988. The 1984 study conducted by Manning did not identify either precontact sites (before the arrival of Europeans), historic-era cultural resources (e.g., archaeological sites; built environments), or tribal cultural resources.

On February 27, 2023, an updated NIC cultural resources literature review and a records search were conducted for the Proposed Project location. The records search included a one-mile search radius around the Proposed Project location and was conducted by NIC cultural resource staff. The purpose of the search was to identify precontact or historic archaeological sites or historic buildings and structures previously recorded within and around the Proposed Project location after 1984.

The results of the NIC literature review revealed that two cultural resource studies (NEIC-009324 and NEIC-009331) dating to 1983 and 1984 were conducted within portions of the Proposed Project location. Both studies consisted of pedestrian field surveys and inventories for cultural resources prepared by J.P. Manning. No additional studies were identified from the updated literature review.

Construction of the facilities in the Proposed Project location was completed in 1989. Therefore, the facilities that would be modified and removed by the Proposed Project

would not be eligible for listing on the National Register for Historic Places as they were constructed less than 50 years ago.

ANALYSIS

a) Would the Proposed Project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact. The results of the NIC records search identified 36 archaeological sites recorded within one mile of the Proposed Project location. None of the archaeological resources are located within the Proposed Project location. Furthermore, according to the NIC, historical maps, and the Built Environment Resources Directory, which includes listings of California Register of Historical Resources (CRHR), California State Historical Landmarks, California State Points of Historical Interest, and National Register of Historic Places (NRHP), there are no historic properties within or adjacent to the Proposed Project location.

Therefore, all data considered, there are no archaeological sites, structures or cultural resources located within the Proposed Project location that are currently listed, individually or collectively, in either the NRHP or the CRHR. Additionally, a letter from the State Historic Preservation Office (SHPO) signed by Julianne Polanco (California SHPO officer), dated April 18, 2023, states the efforts to identify historic properties eligible for the NRHP and CRHR were reasonable and notes the SHPO does not object to a finding of no historic properties affected by the Proposed Project.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

b) Would the Proposed Project a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant with Mitigation Incorporated. As discussed above, there are 36 archaeological resources located within one mile of the Proposed Project location, but none within the Proposed Project location. Therefore, the Proposed Project would not cause a substantial adverse change in the significance of a documented archaeological resource, pursuant to Section 15064.5 of the CEQA Guidelines.

However, as assessed by the NIC, the Proposed Project location is in a region that is currently inhabited by the descendants of the indigenous Konkow Maidu (Maidu). The ancestral Maidu used the local region for seasonal and/or permanent settlement, as well as for gathering of plants, roots, seeds, domestic materials, and hunting seasonal game. After the arrival of Euro-Americans, the region was utilized for mining and timber. Gold mining has been documented throughout the area surrounding the Proposed Project location. While unlikely, buried intact cultural resources with integrity could be damaged by ground disturbing activities from Proposed Project construction, which would represent a significant impact to a significant archaeological resource.

Therefore, to avoid impacts to archaeological resources, **MM CUL-1** requires that a qualified Archaeologist be retained for on-call services in the event of the discovery of archaeological resources during ground disturbing activities. Any discovered resources would be evaluated for significance by the Archaeologist and a mitigation plan would be developed in consultation with the State Water Board and the local Native American community (if resources are precontact in origin).

With implementation of **MM CUL-1,** the Project would result in a less than significant impact related to this threshold.

c) Would the Proposed Project disturb any human remains, including those interred outside of formally dedicated cemeteries?

Less than Significant with Mitigation Incorporated. The NIC and the Native American Heritage Commission (NAHC) records searches did not identify documented evidence of human remains on or near the Proposed Project location. In the unlikely event of an unanticipated encounter with human remains, the California Health and Safety Code and the California Public Resources Code require that any activity in the area of a potential find be halted, and the Butte County Coroner be notified, as described in **MM CUL-2**.

With implementation of **MM CUL-2,** the Proposed Project would result in a less than significant impact related to this threshold.

Mitigation Measures

MM CUL-1 Prior to commencement of ground disturbance activities (earthmoving) STS shall retain a qualified Archaeologist for on-call services in the event of a discovery of cultural resources during ground disturbance activities. The Archaeologist shall be present at the pre-grade conference; and shall establish, in cooperation with STS, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources (artifacts). Should these resources be found during ground-disturbing activities for the Project, the Archaeologist shall first determine whether it is a “unique archaeological resource” pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2. subdivision (g) of the Public Resources Code), or a “historical resource” pursuant to Section 15064.5, subdivision (a) of the CEQA Guidelines. If the above-mentioned resources are found during earthmoving activities, the Archaeologist shall formulate a report and a mitigation plan in consultation with the State Water Board and local Native American community (if resources are precontact in origin) that satisfies the requirements of the above-referenced sections. The report shall follow guidelines of the State Historic Preservation Office (SHPO), and s/he shall record the site and submit the recordation form to the State Water Board and the California Historic Resources Information System (CHRIS) at the NIC at California State University, Chico. For all archaeological resources,

the disposition of the resources shall be subject to approval by the State Water Board and the local Native American community (if resources are precontact in origin). If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Archaeologist.

MM CUL-2 If human remains are encountered during ground disturbing activities, all work is required to halt in the immediate vicinity of the discovery and the County Coroner (coroner) must be notified (Pub. Resources Code, § 5097.98). The coroner is required to determine whether the remains are of forensic interest. If the coroner, with the aid of an archaeologist, determines that the remains are precontact, s/he is required to contact the Native American Heritage Commission (NAHC). The NAHC is responsible for designating the most likely descendant (MLD), who is responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the Health and Safety Code. The MLD is required to make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation is required to be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (Health & Saf. Code, § 7050.5). If the landowner rejects the MLD's recommendations, the landowner is required to rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (Pub. Resources Code, § 5097.98).

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

ENVIRONMENTAL SETTING

The license for the hydroelectric production facilities in the Proposed Project location was issued on August 20, 1985 for a term of 50 years, expiring on July 31, 2035. However, the hydroelectric production facilities within the Proposed Project location have been inoperable since August 2017 when the powerhouse, transmission lines, and electrical equipment were severely damaged by the Ponderosa Fire.

Senate Bill (SB) 1078 – Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078 and was amended in 2006 and 2011. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission (CPUC) is required to provide quarterly progress reports regarding the State's progress toward RPS goals.

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 implements some of the goals of Executive Order (EO) B-30-15. Based on California Legislative Information 2015, the objectives of SB 350 are:

1. To increase from 33 percent to 50 percent, the procurement of California's electricity from renewable sources; and
2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

The text of SB 350 sets a December 31, 2030, target for 50 percent of electricity to be generated from renewable sources. The RPS requires the public utilities within

California to achieve 100 percent electricity generation from renewable energy sources by 2045.

Senate Bill (SB) 100 – The 100 Percent Clean Energy Act of 2018

Signed into law on September 10, 2018, SB 100 sets a goal of powering all retail electricity sold in California and State agency electricity needs with renewable and zero-carbon resources — those such as solar and wind energy that do not emit climate-altering greenhouse gases (GHGs) by year 2045; updates the State's Renewables Portfolio Standard to ensure that by 2030 at least 60 percent of California's electricity is renewable; and Requires the Energy Commission, Public Utilities Commission, and Air Resources Board to use programs under existing laws to achieve 100 percent clean electricity and issue a joint policy report on SB 100 by 2021 and every four years thereafter.

United States Code of Federal Regulations

Title 10 – Energy, Chapter 2 – Department of Energy, Subchapter H – Assistance Regulations, Part 611 – Advanced Technology Vehicles Manufacturer Assistance Program, Subpart A – General, Section 611.

The Energy Independence and Security Act (EISA) of 2007 (Public Law 110–140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The EISA sets increased Corporate Average Fuel Economy Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration.

Title 18 – Conservation of Power and Water Resources, Chapter 1 – Federal Energy Regulatory Commission, Subchapter B – Regulations Under the Federal Power Act.

The Federal Power Act (FPA or the Act) is the primary federal statute governing the wholesale transmission and sale of electric power, as well as the regulation of hydroelectric power. The FPA was promulgated in 1920 and created the successor agency Federal Energy Regulatory Commission (FERC), from the Federal Power Commission. FERC consists of five commissioners appointed by the president. FERC has the power to license and inspect private, municipal, and State hydroelectric projects.

Title 18 – Conservation of Power and Water Resources, Chapter 1 – Federal Energy Regulatory Commission, Subchapter B – Regulations Under the Federal Power Act, Part 6 – Surrender or Termination of License, Section 6.1 - Application for Surrender.

18 Code of Federal Regulations part 6.1(a) provides the following: “Every application for surrender of a license shall state the reason therefor; and, except in the case of an application for surrender of a license for a minor project, or for a transmission line only, shall be executed by the licensee and filed in the same form and manner as the application for license, and shall be accompanied by the license and all amendments thereof. Public notice of such application shall be given at least 30 days prior to action upon the application.”

CEQA

Public Resources Code section 21100, subdivision (b)(3) and Appendix F to the CEQA Guidelines require a discussion of potential energy impacts of proposed projects.

Appendix F to the CEQA Guidelines states:

> The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:
>
> (1) Decreasing overall per capita energy consumption;
>
> (2) Decreasing reliance on fossil fuels such as coal, natural gas, and oil; and
>
> (3) Increasing reliance on renewable energy sources.

Butte County General Plan 2040

Energy is discussed in the Conservation and Open Space Element of the Butte County General Plan. The majority of electrical power generation facilities in Butte County are hydroelectric projects. Many of the other facilities use mainly renewable technologies, including photovoltaics, fuel cells, landfill methane capture, biomass, and small cogeneration technologies.

The State of California requires local governments to address energy conservation and efficiency in new construction. The State Building Standard Code, including Title 24, applies to any new structures, additions to an existing structure, changes to the footprint of a structure, or changes to water and heating systems. In June 2001, amendments to Part 6, Title 24, of the State Administrative Code were enacted mandating more stringent conservation and efficiency requirements for new residential and non-residential construction. California updates the statewide Building Standards Code (Title 24), including energy efficiency standards, every three years. The currently applicable 2022 standards went into effect on January 1, 2023. In Butte County, the Building Division of the Department of Development Services is responsible for enforcing all the provisions of Title 24.

Butte County Climate Action Plan

The 2021 Climate Action Plan (CAP) is Butte County’s strategic plan to reduce GHG emissions in the unincorporated county. The 2021 CAP allows Butte County (County) decision makers, staff, and the community to understand the sources and magnitude of

local GHG emissions, reduce GHG emissions, and prioritize steps to achieve reduction targets (Butte County 2021). The following strategies and actions would be applicable to the Proposed Project:

Policy COS-P3.1: The expansion and increased efficiency of hydroelectric power plants in the county is encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.

Strategy 4: Support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.

Strategy 4 Action 4b: Promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.

ANALYSIS

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

Proposed Project construction would require the use of construction equipment for demolition and grading activities. According to STS, all off-road construction equipment is assumed to use diesel fuel. Construction also includes the vehicles of construction workers and vendors traveling to and from the Proposed Project location.

Construction Impacts

Less than Significant. Off-road construction equipment use was calculated from the equipment data (mix, hours per day, horsepower, load factor, and days per phase) provided in the CalEEMod construction output files included in Appendix A. The total horsepower hours for the Proposed Project was then multiplied by fuel usage estimates per hours of construction activities included in the Off-Road Model.

Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total VMT was then calculated for each type of construction-related trip and divided by the corresponding miles per gallon factor using CARB's EMissions FACtor (EMFAC) 2021 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. As shown in Table 11, Energy Use During Construction, a total of 1,466 gallons of gasoline and 8,848 gallons of diesel fuel are estimated to be consumed during Project construction.

TABLE 11
ENERGY USE DURING CONSTRUCTION

Source	Gasoline (gallons)	Diesel (gallons)
Off-road Construction Equipment	573	8,700
Worker commute	892	2
On-road haul	0	146
Totals	**1,466**	**8,848**

Sources: based on data from CalEEMod, Off-Road, and EMFAC2021. Energy data can be found in Appendix B.

Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. The Proposed Project would also implement best management practices such as requiring equipment to be properly maintained. Furthermore, there are no unusual characteristics of the Proposed Project that would necessitate the use of construction equipment that would be less energy-efficient than comparable equipment at construction sites in other parts of the State.

Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption and the potential impacts are considered to be less than significant, and no mitigation is required.

Operational Impacts

Less than Significant. The Proposed Project would prevent future diversions from Sucker Run Creek at Kanaka Dam through the sealing of the penstock that would occur. Under existing conditions the Hydroelectric Project is unable to produce electricity because the powerhouse was destroyed and associated power distribution facilities connecting the Hydroelectric Project to the electrical grid were destroyed and removed. Therefore, the Proposed Project would not result in any unnecessary consumption of energy resources.

In summary, the Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

Less than Significant. SB 100, signed into law in 2018, would require all retail sales and State loads of electricity to be sourced from renewable and zero-carbon resources by 2045. In addition, the Butte County CAP contains strategies and actions, which call for the sourcing of energy derived from renewable resources.

The existing dam provided hydroelectric power from its construction in 1988 to 2017, when the powerhouse and distribution facilities were destroyed by the Ponderosa Fire. The primary reason for the surrender of the Hydroelectric Project license is that the restoration of the generation and distribution facilities would not be cost -effective.

The Proposed Project would not conflict with SB 100 because the Hydroelectric Project ceased power generating activities since 2017, prior to the adoption of SB 100. In addition, the loss of a hydroelectric energy source would not conflict with the County's CAP because the County has been promoting the use of solar, wind, biomass, and battery energy storage. The County's CAP contains numerous goals, policies, and actions that call for the same. These goals and policies include promoting and incentivizing small-scale, on-site renewable energy and storage systems; supporting efforts to increase renewable energy generation from biomass, solar, and wind; utilizing solar power for County facilities; and encouraging solar and wind power facilities in all General Plan land use designations. As such, the Proposed Project would not conflict with the County's CAP or State policies or plans for renewable energy.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is 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:				
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 https://www.conservation.ca.gov/cgs/Documents/SP_042.pdf	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The mountainous region where the Proposed Project location is located is comprised of Mesozoic and Paleozoic-age plutonic, volcanic, and metamorphic rocks. Soils in the area consist of decomposed granite, generally classified as Modesty, Chanakee, and Hotaw soils series. These tend to be shallow to moderately shallow, coarse to gravelly sandy loams. The soil is permeable and well drained. Surface soils in vicinity of the Proposed Project location were heavily disturbed by the Ponderosa Fire in 2017.

The Proposed Project location is in a stream valley surrounded by steep slopes. Roughly two-thirds of the land around the Proposed Project location has slopes in excess of 30 percent. The stream channel within the Proposed Project location is narrow and dominated by falls, cascades, and chutes, flowing through steep gradient bedrock channels with average gradients ranging from 6 to 25 percent. Only two short reaches in the vicinity of the Proposed Project location are characterized as a flat or low-gradient stream. The area surrounding the powerhouse within the Proposed Project location is relatively flat and compacted and located uphill from Sucker Run Creek.

STS tested the sediment accumulated behind the dam for toxins in July 2022. Soil samples were collected at the surface and at a depth of 2 feet in the impoundment and analyzed for the presence of polychlorinated biphenyls (PCBs), total cyanide, mercury, and other heavy metals. Samples were analyzed for exceedance of either the Total Threshold Limit Concentrations (TTLC) or Soluble Threshold Limit Concentrations (STLC).15 All samples were well below TTLC limits for hazardous materials and all samples were also below the 10-times the threshold for STLC extraction. During the testing, STS also estimated the volume of sediment accumulated behind the project dam and provided a breakdown of sediment grain size. Samples were collected from the right stream bank, center stream, left stream bank, and willow island (upstream of the dam) using standard soil sizing sieves. In general, soils along the center of the

stream consisted entirely of medium to coarse pebbles. On the left and right streambanks, soils consisted mostly of sand with generally more fine sands along the right bank and more coarse sands along the left bank. Willow island, just upstream from the dam, consisted mostly of coarse sands and pebbles. According to STS' field inspection, the amount of accumulated sediment behind the dam is estimated to be approximately 125 cubic yards of soil.

During a site visit in October 2023, STS found inadvertent diversion of flows from Sucker Run Creek into the wet well and penstock within the Proposed Project location. As a result, flows were being discharged from the penstock at three breaks along the above ground section of the penstock. Also, subsequently, erosion and failed culverts along an existing road were identified during the inspection.

ANALYSIS

a)(i) Would the Proposed Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving 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 https://www.conservation.ca.gov/cgs/Documents/SP_042.pdf

No Impact. The Proposed Project location is located within a seismically active region. According to mapping maintained by the California Department of Conservation, the Proposed Project location is not located within any fault zones; however, the Proposed Project location is within two miles of the Big Bend Wolf Creek Fault Zone with several other active faults also nearby (DOC 2024b).

The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would increase the risk of loss, injury or death as a result of a known fault.

For these reasons, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

a)(ii) Would the Proposed Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking?

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would increase the risk of loss, injury or death as a result of strong seismic ground shaking.

For these reasons, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

a)(iii) Would the Proposed Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction?

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would increase the risk of loss, injury or death as a result of seismic-related ground failure including liquefaction.

For these reasons, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

a)(iv) Would the Proposed Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving landslides?

Less than Significant. Landslides are downward and outward movements of slope-forming materials, which may be rock, soil, artificial fill, or combinations of such materials. The susceptibility of a given area to landslides depends on multiple variables including slope steepness, slope material, structure and physical properties of materials, water content, vegetation cover, proximity to areas of erosion and earthquake ground motions.

The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would increase the risk of loss, injury or death as a result of landslides.

Construction workers and equipment would be on-site for a period of two months, during which time these workers and equipment would be at-risk of potential landslides should they occur during that specific time. However, the limited amount of construction activities that would be conducted by the Proposed Project, it is unlikely that the Proposed Project would cause landslides.

For these reasons, the Proposed Project would have a less than significant impact related to this threshold, and no mitigation is required.

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

Less than Significant with Mitigation Incorporated. The Proposed Project's ground disturbing activities, including those needed to remove the powerhouse and associated facilities, would have the potential to result in erosion and loss of topsoil. Therefore, STS would implement **MM WQ-3 and MM WQ-4**, which requires the development and implementation of a water quality monitoring and protection plan (WQMPP) for ground disturbing activities not addressed by other measures and Erosion, Sediment and Hazardous Materials Control Measures that would outline specific best management practices that would be implemented for construction activities associated with the Project

With implementation of **MM WQ-3 and MM WQ-4,** the Proposed Project would result in a less than significant impact with mitigation related to this threshold.

c) Would the Proposed Project be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would be at-risk due to conditions such as lateral spreading, subsidence, liquefaction, or soil collapse. As noted above, the Proposed Project location is susceptible to landslides and construction workers and equipment for the Proposed Project would be temporarily exposed to hazards relating to landslides, should a landslide occur during the limited period of time that workers are on-site.

Therefore, the Proposed Project would have less than significant impact related to this threshold, and no mitigation is required.

d) Would the Proposed Project 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. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would increase the risk of loss, injury or death as a result of seismic-related ground failure including liquefaction.

For these reasons, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project does not require development of either septic tanks or alternative wastewater systems.

Therefore, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

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

No Impact. A paleontological records search was requested from the Natural History Museum of Los Angeles County, Vertebrate Paleontology Department, and results were received on October 29, 2023. The results indicate that the local area, including the Proposed Project location, is mapped as granitic rock, which does not preserve fossils. However, there are soils at surface level in the Proposed Project location that may contain fossils. Given the Proposed Project's limited ground disturbance, it is unlikely that fossils would be encountered during construction.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

Mitigation Measures

WQ MM-3 To minimize the potential water quality effects of the Proposed Project and to maintain compliance with SJR/SR Basin Plan water quality objectives and associated beneficial uses, STS shall develop a list of Erosion, Sediment and Hazardous Materials Control Measures. The Erosion, Sediment, and Hazardous Materials Control Measures shall include BMPs to address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs shall be based on the best available technology. At a minimum, the Erosion, Sediment, and Hazardous Materials Control Measures shall include:

- Description of site characteristics, including runoff, streamflow, and soil erosion characteristics.
- Description of construction procedures.
- Guidelines for proper application of erosion and sediment control BMPs.
- Description of measures for temporary storage of hazardous materials.
- Description of measures to control toxic materials spills.

- Description of construction site housekeeping practices.
- Hazardous Material Spill and Discharge Reporting.
- A list that shall include BMPs from all the various plans and permits associated with the Project, including but not limited to Construction General Permits.

MM WQ-4 For any ground-disturbing activities that could impact water quality that are not addressed by the Construction General Permit or other mitigation measures, a site-specific water quality monitoring and protection plan (WQMPP) shall be prepared and implemented. The WQMPP shall be based on site conditions and at a minimum include:

- Description of site conditions and the proposed activity.
- Detailed descriptions, design drawings, and specific topographic locations of all control measures in relation to the proposed activity, which may include:
  - Measures to divert runoff away from disturbed land surfaces.
  - Measures to collect and filter runoff from disturbed land surfaces, including sediment ponds at the sites.
  - Measures to dissipate energy and prevent erosion.
- Revegetation of disturbed areas using native plants and locally-sourced plants and seeds.
- A monitoring, maintenance, and reporting schedule.

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

ENVIRONMENTAL SETTING

Climate change refers to any significant change in climate, such as the average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn increases the Earth's surface temperature. Some GHGs occur naturally and are emitted into the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion, in conjunction with other human activities, is associated with global warming.

GHGs, as defined under California's AB 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, O_3, and aerosols in the GHG category. Water vapor and atmospheric O_3 are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by regulatory bodies, such as CARB, or climate change groups, such as The Climate Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, O_3, or aerosols is provided herein.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a

measure of both its potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the emission rate of that gas to produce the CO_2e emissions.

Regulatory Setting

State

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05, which proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack in the Sierra Nevada Mountains; could further exacerbate California's air quality problems; and could potentially cause a rise in sea levels. In an effort to avoid or reduce the impacts of climate change, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010; to year 1990 levels by 2020; and to 80 percent below 1990 levels by 2050.

Assembly Bill 32

AB 32, the California Global Warming Solutions Act of 2006 (Health & Saf. Code, § 38501), recognizes that California is the source of substantial amounts of GHG emissions. The statute states that:

> "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems; a reduction in the quality and supply of water to the state from the Sierra snowpack; a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences; damage to marine ecosystems and the natural environment; and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

In order to avert these consequences, AB 32 establishes a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow. In an effort to help achieve this reduction, on November 17, 2008, Governor Arnold Schwarzenegger signed EO S-14-08, raising California's renewable energy goals to 33 percent by 2020.

Executive Order B-30-15

California EO B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030 and directed State agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels.

On September 8, 2016, the Governor signed SB 32 to codify the GHG reduction goals of EO B-30-15, requiring the State to reduce GHG emissions by 40 percent below 1990 levels by 2030 (Health and Safety Code Section 38566). This goal is expected to keep the State on track to meeting the goal set by EO S-3-05 of reducing GHG emissions by 80 percent below 1990 levels by 2050. SB 32's findings state that CARB will "achieve the state's more stringent greenhouse gas emission reductions in a manner that benefits the state's most disadvantaged communities and is transparent and accountable to the public and the Legislature."

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006 and 2011. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The CPUC is required to provide quarterly progress reports regarding the State's progress toward RPS goals.

Senate Bill 350

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 implements some of the goals of EO B-30-15. Based on California Legislative Information 2015, the objectives of SB 350 are:

1. To increase from 33 percent to 50 percent, the procurement of California's electricity from renewable sources; and
2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

The text of SB 350 sets a December 31, 2030, target for 50 percent of electricity to be generated from renewable sources. The RPS requires the public utilities within California to achieve 100 percent electricity generation from renewable energy sources by 2045.

Senate Bill (SB) 100 – The 100 Percent Clean Energy Act of 2018

Signed into law on September 10, 2018, SB 100 sets a goal of powering all retail electricity sold in California and State agency electricity needs with renewable and zero-carbon resources — those such as solar and wind energy that do not emit climate-altering GHGs

by year 2045; updates the State's Renewables Portfolio Standard to ensure that by 2030 at least 60 percent of California's electricity is renewable; and Requires the Energy Commission, Public Utilities Commission, and Air Resources Board to use programs under existing laws to achieve 100 percent clean electricity and issue a joint policy report on SB 100 by 2021 and every four years thereafter.

Title 24, Part 6 – Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The current applicable standards are the 2022 Standards, effective January 1, 2023. The Energy Code contains energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. In addition, the 2022 Energy Code encourages energy efficient approaches to foster building decarbonization, emphasizing in particular heat pumps for space heating and water heating. The 2022 Energy Codes also extends the benefits of photovoltaic and battery storage systems and other demand flexible technology to work in combinations with heat pumps to enable California buildings to be responsive to climate change. This Energy code also strengthens ventilation standards to improve indoor air quality. This 2022 update provides crucial steps in the State's progress toward 100 percent clean carbon neutrality by midcentury. Lastly, the requirements contained in the energy efficiency standards will result in the reduction of natural gas and electricity consumption. Since natural gas use produces criteria pollutant emissions, a reduction in natural gas consumption results in a related reduction in air quality emissions.

Title 24, Part 11 – Green Building Standards

The 2022 California Green Building Standards Code (Cal. Code Regs., tit. 24, part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California and became effective on January 1, 2023. The code is Part 11 of the California Building Standards Code in Title 24 of the California Code of Regulations and is also known as the CALGreen Code. The development of the CALGreen Code is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The CALGreen Code contains requirements for construction site selection, storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more.

Local

The County of Butte updated its 2014 Climate Action Plan (CAP) in 2021. The 2021 Butte County CAP was adopted on December 14, 2021 (Butte County 2021). The 2021 CAP is Butte County's strategic plan to reduce GHG emissions in the unincorporated county. The 2021 CAP allows Butte County decision makers, staff, and the community to understand the sources and magnitude of local GHG emissions, reduce GHG emissions, and prioritize steps to achieve reduction targets.

The 2021 CAP, which is an update of the 2014 CAP, provides updated information, an expanded set of GHG reduction strategies, and a planning horizon out to 2050. The 2021 CAP contains an inventory of the community's GHG emissions from the agriculture, transportation, energy, solid waste, off-road equipment, water and wastewater, and stationary source sectors. The 2021 CAP also includes informational GHG emissions from the land use and sequestration sector and the wildfire and controlled burn sector. The 2021 CAP also presents a work plan and monitoring program for the County to track progress over time.

The 2021 CAP allows community members, County staff and officials, and other stakeholders to understand the County's existing planning efforts and strategies to achieve its GHG reduction goals. It builds on several earlier efforts, including General Plan 2030, the 2014 CAP, and several other local accomplishments to date (Butte County 2021).

Significance Criteria

The BCAQMD has not formally adopted a quantitative GHG emissions significance threshold for stationary and non-stationary sources to date.

ANALYSIS

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

Construction Impacts

Less than Significant. The Proposed Project would result in emission of GHGs. GHG emissions occurring during construction would be generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction GHG emissions were calculated for the Proposed Project concurrently with air quality criteria pollutant emissions by using CalEEMod. The results are output in metric tons of carbon dioxide equivalent ($MTCO_2e$) for each year of construction (with the Proposed Project only occurring within two months). As shown in Table 12, construction emissions for the Proposed Project were calculated to be 238 $MTCO_2e$/yr.

TABLE 12
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS
FROM CONSTRUCTION

Year	Emissions ($MTCO_2e$)
2025	238
Total	**238**

$MTCO_2e$: metric tons of carbon dioxide equivalent.
Source: CalEEMod data in Appendix A.

It is important to note that the BCAQMD has not adopted a GHG emissions threshold of significance. Nevertheless, the amount of GHG emissions that would be generated during construction of the Proposed Project would be low. Furthermore, Project construction would last for approximately two months. As a result, the Proposed Project would have a less than significant construction GHG emissions.

Operational Impacts

Less than Significant. Operational GHG emissions typically associated with various development include natural gas use; purchased electricity; the electricity embodied in water consumption; the energy associated with solid waste disposal; and mobile sources. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would result in any operational GHG emissions.

In summary, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

Less than Significant. The BCAQMD has not adopted standards for the purpose of reducing GHG emissions. The principal State plan and policy adopted for the purpose of reducing GHG emissions is AB 32. Other applicable plans and policies that are applicable to the proposed Project are EO S-3-05, the California Global Warming Solutions Act of 2006, SB 32, and SB 100. The quantitative goal of these regulations is to reduce GHG emissions to 1990 levels by 2020, to 80 percent below 1990 levels by 2050, and for SB 32, to 40 percent below 1990 levels by 2030. Statewide plans and regulations (such as GHG emissions standards for vehicles, the Low Carbon Fuel Standard, Cap -and -Trade, and renewable energy) are being implemented at the Statewide level, and compliance at a project level is not addressed. In terms of compliance with SB 100, the dam has been rendered non-operational since 2017 as a

result of the Ponderosa Fire. Therefore, the Proposed Project would not conflict with these plans and regulations.

Regarding the 2021 Butte County CAP, the Proposed Project's implementation would not conflict with any of the strategies listed in the CAP. The Proposed Project's implementation would not result in any operational emissions as the Proposed Project proposed no uses or buildings that would result in utility consumption, trips to/from the site, or waste generation. As such, the Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHG.

Therefore, the Project would result in a less than significant impact related to this threshold, and no mitigation is 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, will 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?	☐	☐	☐	☒

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The Proposed Project location is located within a Very High Fire Hazard Severity Zone within a State Responsibility Area (CALFIRE 2023).

STS tested the sediment accumulated behind the dam for toxins in July 2022. Soil samples were collected at the surface and at a depth of 2 feet in the impoundment and analyzed for the presence of polychlorinated biphenyls (PCBs), total cyanide, mercury, and other heavy metals. Samples were analyzed for exceedance of either the Total Threshold Limit Concentrations (TTLC) or Soluble Threshold Limit Concentrations (STLC).15 All samples were well below TTLC limits for hazardous materials and all samples were also below the 10-times the threshold for STLC extraction.

The hydroelectric facilities within the Proposed Project location have been in place since 1988, including the diversion structure, penstock, powerhouse, tap line, and appurtenant facilities. In August 2017, the Proposed Project location was impacted during the Ponderosa Fire as it swept through Butte County. Several facilities in the Proposed Project location were damaged or destroyed, including the powerhouse, all electrical and mechanical equipment, the diversion site access bridge, and the transmission line to the site.

The substation structure that would be removed and hauled off-site as part of the Proposed Project may include oils or hazardous materials.

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. Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc. would be used to maintain vehicles and motorized equipment during construction and demolition-related activities. Demolition and construction activities would be relatively short-term and the transport, use, and disposal of hazardous materials as part of these activities would utilize small quantities and be temporary. The contractor would be required to comply with existing federal and State regulations for the transport, use, storage, and disposal of hazardous materials to prevent public safety hazards. Therefore, the Proposed Project would not involve the routine transport, use or disposal of hazardous materials in quantities or conditions that would pose a hazard to public health and safety or the environment during operations.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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. In 2021, FERC authorized initial cleanup activities on-site related to the fire damage, including restoration of the two-mile-long access road by clearing of downed trees and brush, repair of the security gate, removal of the 771-foot-long tap line, disassembly of several damaged transmission poles, and removal of miscellaneous debris such as loose scrap metal within the powerhouse and immediate vicinity.

As part of the Proposed Project, demolition debris from the powerhouse would be removed from the Proposed Project location. STS would be required to handle and dispose of all waste in accordance with applicable regulations, which would minimize the potential for any hazardous materials that may be contained in the building materials from being released into the environment.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

No Impact. There are no schools within one-quarter mile of the Proposed Project location. The nearest school is the Feather Falls Union School located approximately three miles northeast of the Proposed Project location.

Therefore, the Proposed Project would have no impact related to this threshold, and no mitigation is required.

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, will it create a significant hazard to the public or the environment?

No Impact. Based on review of the Cortese List data resources, the Proposed Project location is not located on the State of California Hazardous Waste and Substances Sites List published by California Environmental Protection Agency (CalEPA) and compiled pursuant to Section 65962.5 of the Government Code (referred to as the Cortese List) (CalEPA 2023). The site is not known to have been contaminated with hazardous materials, and no hazardous material storage facilities are known to exist onsite. For these reasons, the Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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 Proposed Project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Proposed Project location is not within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport is the Oroville Municipal Airport located approximately 18 miles west of the Proposed Project location. Therefore, the Proposed Project would not result in a safety hazard for people residing or working in the Project area, nor for people visiting the Project.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The closest primary evacuation route within Butte County is State Route (SR) 162, which is located approximately eight miles west of the Proposed Project location. Butte County also has evacuation plans, routes, access points and assembly points within various sub-regions. Within the Feather Falls sub-region, where the Project is located, the only emergency travel route in Feather Falls is Lumpkin Road going south towards Forbestown Road, and Feather Falls Elementary School is the assembly point (Butte County 2023a).

Additionally, Butte County has adopted a set of Community Evacuation Plans and Maps for communities throughout the county, especially those in wildfire-prone areas. These plans and maps were created as part of implementing the Community Wildfire Protection Plan and are intended to inform residents, visitors, and community members of emergency travel routes, preparedness activities, and the availability of emergency

communication methods in the event an evacuation is needed. The Butte County Emergency Operations Plan (EOP) provides procedures for planning for and implementing evacuations and acknowledges that the evacuation of large numbers of people from vulnerable areas may stress the limited capabilities of the roadways and personnel in the county, which may increase the amount of time needed to complete an evacuation and trigger mutual-aid resources. This plan also assumes that limited evacuation road networks may necessitate evacuees to be directed to refuges-of-last-resort if evacuations are terminated prior to full completion (Butte County 2023a).

The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not involve any changes to existing public roadways or to fire access trails that could result in inadequate emergency access. The Proposed Project would not introduce any new structures or new residents that would require additional emergency response or that would in any way delay emergency access.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not involve any changes to existing public roadways or to fire access trails that could result in inadequate emergency access. The Proposed Project would not introduce any new structures or new residents that would be exposed to loss, injury, or death involving wildland fires.

During demolition and construction activities, the Proposed Project would increase the need for fire protection services due to the equipment and on-site diesel fuel that would be used on-site. Possible ignition sources such as internal combustion engines, gasoline-powered tools, and equipment that could produce a spark, fire, or flames would be used during the Proposed Project activities.

To minimize the potential for a wildfire to begin due to construction activities, a Fire Prevention Plan would be developed for the Project prior to the beginning of Project activities, which would be implemented throughout the Proposed Project's activities. The plan shall designate fire safety measures that shall be implemented by the Proposed Project's contractor to reduce the possibility of fires during construction. The plan shall include requirements for adequate fuel breaks between areas with flammable vegetation and all work activities in accordance with applicable requirements and standards. The plan shall also include the following measures: fire watch/ fire guards during hot work and during use of heavy machinery; hose lines attached to a water tender at multiple accessible locations throughout the construction site; Red Flag

warning weather period work restrictions; required on-site fire resources including fire extinguishers on all vehicles; and other measures as determined to be necessary.

In conclusion, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is 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 ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will:				
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 will result in flooding on- or offsite?	☐	☐	☐	☒
iii) Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

Sucker Run Creek has a watershed area of approximately 15.5 square miles upstream of Kanaka Dam. Based on streamflow data collected at a USGS gage (Gage No. 11396395), located about one mile downstream of the project, the average annual flow is approximately 10.4 cfs. Based on flow data from the gage, average monthly flows are highest in early spring (February-April) and lowest in fall (August-October). Article 21 of the existing FERC license requires STS to maintain seasonal minimum flow, ranging from 5-13 cfs, or inflow, whichever is less, in the bypassed reach. Except for the inadvertent diversion of water observed during the October 2023 site visit, STS reports that water has remained in Sucker Run Creek since the fire and is released at the dam, primarily through the drain gate. On March 1, 2025, STS submitted a memo stating that it is STS's opinion that the level of sediment accumulation inside the wet well has overtopped the penstock flap gate, and was now restricting Sucker Run Creek flows from entering the penstock.

Water quality was sampled at the Proposed Project site in July 2022 for inclusion in the License Surrender Application. Samples were taken from within the powerhouse's eastern vault. Water samples were tested for; Arsenic, Cadmium, Calcium, Chromium, Copper, Lead, Magnesium, Manganese, Nickel, Selenium, Silver, Zinc and n-Hexane Extraction Material (oil and grease). Of all the constituents tested, arsenic and manganese had elevated levels. While in the field, the same waters that were sampled for testing were field tested for pH, temperature and conductivity. All field-tested parameters were within typical ranges for natural streams.

As part of EcoKai data collection conducted during development of the Kanaka License Surrender Application temperature, pH, specific conductivity, dissolved oxygen, and turbidity constituents were sampled directly upstream and downstream of the Kanaka Diversion Dam. As part of this study, a limited number of samples were collected from Sucker Run Creek. The results of the study are as follows; Temperature was measured at 18.6 C above the dam and 19 C below the dam, pH was measured at 8.14 above the dam and 8.21 below the dam, specific conductivity was measure at 122 µS/cm above the dam and 126 µS/cm below the dam, dissolved oxygen was measured at 7.2 mg/L above the dam and 6.4 mg/L below the dam, and turbidity was measured at 2.18 NTU's above the dam and 2.12 NTU's below the dam.

Sucker Run Creek is listed on the 2018 California Integrated Report 303(d)[6] list of impaired waters for toxicity. Listing of Sucker Run Creek is supported by six out of ten samples taken from 2002 to 2004 had *Ceriodaphnia dubia* positive for survival endpoint for unknown toxicity. The Proposed Project is within the jurisdiction of the Central Valley Regional Water Quality Control Board, which sets water quality objectives for the region. For toxicity, the water quality objective is that "all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plan, animal, or aquatic life."

ANALYSIS

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

Less than Significant with Mitigation Incorporated.

Turbidity: As discussed in the License Surrender Application for the Kanaka Hydroelectric Project, there is limited turbidity data available for Sucker Run Creek. There were two grab samples taken during the 2022 EcoKai Field Data Collection and Analytical Laboratory Soil Results for Kanaka Hydroelectric Decommissioning Project along Sucker Run, Butte County, California sampling session. The samples were taken immediately upstream and downstream of the Kanaka Diversion Dam, with a lower NTU reading below Kanaka Dam.

Temperature: As discussed in the License Surrender Application for the Kanaka Hydroelectric Project, there are limited data on water temperatures in Sucker Run Creek. There were two grab samples taken during the 2022 EcoKai Field Data Collection and Analytical Laboratory Soil Results for Kanaka Hydroelectric Decommissioning Project along Sucker Run, Butte County, California sampling session. The samples were taken immediately upstream and downstream of the Kanaka Diversion Dam. The limited spatial and temporal sample size does not reflect seasonal temperature variation but generally showed little warming.

Dissolved Oxygen As discussed in the License Surrender Application for the Kanaka Hydroelectric Project, there are limited data on Dissolved Oxygen in Sucker Run Creek. Similar to the above sections there were two grab samples taken during the 2022 EcoKai Field Data Collection and Analytical Laboratory Soil Results for Kanaka Hydroelectric Decommissioning Project along Sucker Run sampling session. The samples were taken immediately upstream and downstream of the Kanaka Diversion Dam and were generally consistent above and below Kanaka Dam

pH As discussed in the License Surrender Application for the Kanaka Hydroelectric Project, there are limited data on pH in the Sucker Run Creek. Similar to the above sections there were two grab samples taken during the 2022 EcoKai Field Data

[6] There were no changes to the status of Sucker Run Creek in the 2024 Integrated Report.

Collection and Analytical Laboratory Soil Results for Kanaka Hydroelectric Decommissioning Project along Sucker Run, Butte County, California sampling session. The samples were taken immediately upstream and downstream of the Kanaka Diversion Dam and were generally consist above and below Kanaka Dam

The Proposed Project has the potential to result in short-term, construction-related water quality impacts such as turbidity to surface water quality within Sucker Run Creek associated with Proposed Project activities to permanently seal the penstock and filling the wet well and tailrace, which are activities that are in proximity to Sucker Run Creek. Work would generally occur in August and September to take advantage of lower flows and water levels in Sucker Run Creek, making it likely that flows will be lower and water temperatures would be higher. Additionally, the Proposed Project has the potential to result in short-term, construction-related water quality impacts such as pH to surface water quality within Sucker Run Creek associated with Proposed Project activities to permanently seal the penstock intake with concrete, which are activities that are in proximity to Sucker Run Creek. There is also potential for the need for STS to conduct dewatering and/or to isolate the work area from the creek, if water is present. For these reasons the Proposed Project has the potential to result in significant impacts

To minimize the potential for water quality effects from these activities, STS shall implement **MM WQ-1,** which requires the development and implementation of a Dewatering and Water Quality Monitoring Plan (Dewatering/Monitoring Plan).

Mobilization of construction equipment and access to Kanaka Dam as well as Kanaka Powerhouse may require additional upgrades to the road or drainage infrastructure. In addition, remaining facilities including exposed penstocks and drainage culverts have the potential to increase sedimentation into Sucker Run Creek. For that reason, STS would implement **MM WQ-2**, which requires that STS comply with all applicable BMP's specified in STS's License Surrender Application and Water Quality Certification Application, as well as the statewide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), as authorized by the State Water Board.

Additionally, ground disturbing activities, including those needed to remove the powerhouse and associated facilities, would have the potential to result in water quality impacts. The disturbed area will be prone to surface runoff and sediment transport until native ground cover can be reestablished. Therefore, STS would implement **MM WQ-3 and MM WQ-4**, which require the development and implementation of an Erosion, Sediment and Hazardous Materials Control Measures and a Water Quality Monitoring and Protection Plan (WQMPP) that would outline specific best management practices that would be implemented for construction activities associated with the Proposed Project with the requirement to ensure protection of water quality and associated beneficial uses as described in the SJR/SR Basin Plan.

As such, construction and operation of the Project would not substantially degrade surface or groundwater quality in a manner that would violate any water quality standards or waste discharge requirements.

In conclusion, with implementation of **MM WQ-1**, **MM WQ-2, MM WQ-3, and MM WQ-4** the Proposed Project would result in a less than significant impact related to this threshold.

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

No Impact. As shown in the Butte County General Plan Update EIR, Figure 5.10-6, the Proposed Project location is located within the Sacramento Valley Groundwater Basin and Butte County Subbasin (Butte County 2023a). Proposed Project activities would not increase the amount of impervious surface area in the Proposed Project location in a way that would interfere with groundwater recharge.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

c)(i) Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will result in substantial erosion or siltation on- or off-site?

Less than Significant with Mitigation Incorporated. The Proposed Project's ground disturbing activities, including those needed to remove the powerhouse and associated facilities, would have the potential to result in erosion and siltation. Therefore, STS would implement **MM WQ-2, MM WQ-3 and MM WQ-4**, which require the development and implementation of Erosion, Sediment and Hazardous Material Control Measures and a Water Quality Monitoring and Protection Plan that would outline specific best management practices that would be implemented for construction activities associated with the Project and the requirement to ensure protection of water quality and associated beneficial uses.

The Kanaka Hydroelectric Project previously diverted up to 13 cfs of water at Kanaka Dam for power generation that was then discharged at the Kanaka Powerhouse approximately 1.07 miles downstream. However, under current conditions flows are not diverted for power generation, with water being passed through or over Kanaka Dam. Similar to the baseline condition, under the Proposed Project, no flows would be diverted for power generation and water would continue to be passed through or over Kanaka Dam. For this reason the Proposed Project would not result in any new altered changes in drainage patterns as opposed to baseline conditions.

With implementation of **MM WQ-2, MM WQ-3 and MM WQ-4,** the Proposed Project would result in a less than significant impact related to this threshold.

c)(ii) Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will

substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or offsite?

No Impact. The Proposed Project would remove the Kanaka Powerhouse, associated facilities and the leave the Kanaka Dam and penstock in place. Removal of the Kanaka Powerhouse will return the landscape to a pre-project state and decrease the amount impervious surfaces. Under baseline conditions no diversions are occurring at the Kanaka Dam and under the Proposed Project no diversion would occur, but additional measures would be implemented to ensure that the penstock is sealed and will remain dewatered. Additionally, the sealing of the Kanaka Penstock and leaving the remaining facilities in place would not result in any new impervious surface or other developments that would increase flooding on or off-site.

After the Proposed Project has been implemented the landscape surrounding the Powerhouse will be recontoured to match the existing slope in the surrounding area. The area will slope down at a relatively shallow angle before reaching the stream channel banks.

Therefore, the Project would result in no impact related to this threshold, and no mitigation is required.

c)(iii) Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant with Mitigation Incorporated. The Proposed Project's ground disturbing activities, including those needed to remove the powerhouse and associated facilities, would have the potential to result in polluted runoff. Additionally, sealing of the penstock may require temporary minor dewatering that could alter the course of the Sucker Run Creek directly in front of the Kanak Penstock Intake. Therefore, STS would implement **MM WQ-1**,**MM WQ-2, MM WQ-3 and MM WQ-4**, which require the development and implementation of a Diversion and Water Quality Monitoring Plan, an Erosion, Sediment and Hazardous Materials Control Measures and a Water Quality Monitoring and Protection Plan (WQMPP) that would outline specific best management practices that would be implemented for construction activities associated with the Project with the requirement to ensure protection of water quality and associated beneficial uses.

With implementation of **MM WQ-1**, **MM WQ-2, MM WQ-3 and MM WQ-4,** the Proposed Project would result in a less than significant impact related to this threshold.

c)(iv) Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will

substantially increase the rate or amount of surface runoff in a manner which will impede or redirect flood flows?

Less than Significant. The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps for 100-year floods (i.e., one percent chance of being inundated during a 12-month period) and 500-year floods (i.e., 0.2 percent chance of flooding in a designated area). As demarcated by FEMA, the Proposed Project location is not within a flood hazard zone and is designated as "Zone X," which identifies areas outside the 0.2 percent annual chance floodplain (FEMA 2023).

The Proposed Project involves surrender of the existing license which is currently classified as a low-hazard dam and does not meet the requirements of a jurisdictional dam in California; therefore, the dam does not fall under the purview of the California Department of Water Resources Division of Dam Safety. The Hydroelectric Project only has a small amount of storage behind the existing diversion dam, and due to its small size, limited storage capacity, and remote location, there are no dam safety concerns and the Proposed Project would not endanger downstream property or human life. Long-term, the dam and penstock would remain in place once the penstock has been permanently sealed and all diversions are made impossible.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project location is not located within a 100-year or 500-year flood hazard zone. According to the Butte County General Plan Update EIR, Figure 5.10-12, the Proposed Project location is not within a dam failure inundation zone (Butte County 2023a). The existing diversion dam is classified as a low-hazard dam and does not meet the requirements of a jurisdictional dam in California. Because of its small size, limited storage capacity, and remote location, there are no dam safety concerns that arise from this facility so leaving the dam in place would not endanger downstream property or human life. The Proposed Project location is not located downslope of any large body of water and is more than 25 miles from the Pacific Ocean; as such no potential impacts pertaining to tsunami or seiche are anticipated.

In conclusion, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

e) Would the Proposed Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant with Mitigation Incorporated. The Proposed Project falls within the Sacramento Valley Groundwater Basin and Butte County Subbasin and is subject to the Butte Subbasin Sustainable Groundwater Management Act Groundwater Sustainability Plan.

The Proposed Project would not increase the impervious surface in the Proposed Project location, such that groundwater recharge from infiltration would be affected.

To minimize the potential water quality effects of the Proposed Project Activities and to maintain compliance with the water quality control plan and the requirement to ensure protection of water quality and associated beneficial uses, STS shall develop and implement a Dewatering and Water Quality Monitoring Plan (Dewatering/Monitoring Plan) and an Erosion, Sediment and Hazardous Material Control Measures as outlined in **MM WQ-1** and **MM WQ-3**

With implementation of **MM WQ-1, and MM WQ-3**, the Proposed Project would result in a less than significant impact related to this threshold.

Mitigation Measures

MM WQ-1 STS shall develop and submit a Dewatering and Water Quality Monitoring Plan (Dewatering/Monitoring Plan) to the Deputy Director of the Division of Water Rights of the State Water Board for review and approval. The Dewatering/Monitoring Plan will be developed to protect water quality objectives and beneficial uses from impacts resulting from Proposed Project activities, such alterations in turbidity, dissolved oxygen, pH, and temperature. At a minimum, the Dewatering/Monitoring Plan shall include:

- A minimum of two monitoring locations that shall be located above and below the Proposed Project activity sites.
- Monitoring frequency, and duration.
- Water quality monitoring for turbidity, pH, dissolved oxygen, and temperature.
- Report requirements and frequency of reporting to the State Water Board.
- Adaptive management actions or procedures that STS shall implement if water quality objectives are determined to be adversely impacted by the Proposed Project. Adaptive management procedures will include stopping Project activities causing the water quality exceedance, if an exceedance occurs.

STS shall not commence construction until the State Water Board Deputy Director of the Division of Water Rights approves the Dewatering and Water Quality Monitoring Plan.

MM WQ-2 STS shall comply with all applicable construction Best Management Practices (BMPs) specified in STS's License Surrender Application and Water Quality Certification application, as well as the statewide General

Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), as authorized by the State Water Board. The General Permit requires elimination or minimization of non-stormwater discharges from construction sites and requires development and implementation of a Storm Water Pollution Prevention Plan.

WQ MM-3 To minimize the potential water quality effects of the Proposed Project and to maintain compliance with SJR/SR Basin Plan water quality objectives and associated beneficial uses, STS shall develop a list of Erosion, Sediment and Hazardous Materials Control Measures. The Erosion, Sediment, and Hazardous Materials Control Measures shall include BMPs to address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs shall be based on the best available technology. At a minimum, the Erosion, Sediment, and Hazardous Materials Control Measures shall include:

- Description of site characteristics, including runoff, streamflow, and soil erosion characteristics.
- Description of construction procedures.
- Guidelines for proper application of erosion and sediment control BMPs.
- Description of measures for temporary storage of hazardous materials.
- Description of measures to control toxic materials spills.
- Description of construction site housekeeping practices.
- Hazardous Material Spill and Discharge Reporting.
- A list that shall include BMPs from all the various plans and permits associated with the Project, including but not limited to Construction General Permits.

MM WQ-4 For any ground-disturbing activities that could impact water quality that are not addressed by the Construction General Permit or other mitigation measures, a site-specific water quality monitoring and protection plan (WQMPP) shall be prepared and implemented. The WQMPP shall be based on site conditions and at a minimum include:

- Description of site conditions and the proposed activity.
- Detailed descriptions, design drawings, and specific topographic locations of all control measures in relation to the proposed activity, which may include:

  - Measures to divert runoff away from disturbed land surfaces.
  - Measures to collect and filter runoff from disturbed land surfaces, including sediment ponds at the sites.
  - Measures to dissipate energy and prevent erosion.
- Revegetation of disturbed areas using native plants and locally-sourced plants and seeds.
- A monitoring, maintenance, and reporting schedule.

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Proposed Project is in a non-urbanized portion of the County on entirely private land, with no public access. Areas surrounding the Proposed Project location include a mix of federally and privately owned non-urbanized land.

The Butte County General Plan, Land Use Element aims to shape the future development of the County and designates the land use areas and the characteristics and intensity of each land use category. The Proposed Project location and surrounding areas are designated Timber Mountain (TM), which allows forest management and the harvesting and processing of forest products. Alternative energy facilities are allowed in the TM designation, subject to permit requirements (Butte County 2022b).

The Butte County Zoning Ordinance aims to specify allowed uses on parcels, identify development standards, and implement policies of the General Plan. Various land uses are grouped into general categories or “zones” such as agricultural, residential, commercial, industrial, etc. Each piece of property in the County is assigned a zone, or combination of “base” and “overlay” zones. These zones list the types of uses allowed on land and set standards such as minimum lot size, maximum building height, and minimum front yard depth (Butte County 2023d). As shown on the Butte County Zoning Map, the Proposed Project location is zoned in a Natural Resource Zone, TM (Butte County 2012). According to the Zoning Ordinance, standards for the TM zone are intended to support the growing and harvesting of timber, pulp woods, and other forestry products for commercial purposes. Permitted uses include logging, timber processing, crop cultivation, agricultural processing, and the management of forest lands for timber operations and animal grazing. Extractive uses that are generally compatible with forestry operations, including mining and oil and gas extraction, are conditionally permitted in the TM zone.

ANALYSIS

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

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would have the potential to divide an established community.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The land use plan, policies and regulations related to land use within Butte County include the Butte County General Plan, Land Use Element and Butte County Zoning Ordinance.

The Proposed Project would not conflict with the zoning or land use designations for the Proposed Project location. STS would implement the Proposed Project's construction activities in accordance with applicable provisions contained in the Butte County Zoning Ordinance.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is 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 will be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

According to the Butte County General Plan Update EIR, Figure 5.12-1, there are no mining activities located on or near the Proposed Project location, and according to Figure 12-2, there are no mineral resource zones located within the Proposed Project location (Butte County 2023a). Historically, there is evidence of historic gold mining along portions of the channel within the Proposed Project location, particularly upstream. However, at present, there are no active mining claims along Sucker Run Creek upstream from the point of diversion (Kleinschmidt 2022).

ANALYSIS

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

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 involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not construct any new buildings or other structures that would limit access to the Proposed Project location or neighboring parcels, should they contain mineral resources.

Therefore, the Proposed Project would result in no impact related to these thresholds, and no mitigation is 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?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Noise and Vibration Basics and Terminology

"Sound" is a vibratory disturbance created by a moving or vibrating source and is capable of being detected. "Noise" is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance; interference with speech communication; sleep disturbance; and, in the extreme, hearing impairment (Caltrans 2013).

Sound pressure levels are described in decibel (dB), which are units measured on a logarithmic scale. A doubling of the energy of a noise source (such as doubling of traffic volume) would increase the noise level by 3 dB. The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-

scale was devised; the A-weighted decibel scale (dBA) approximates the frequency response of the average healthy ear when listening to most ordinary everyday sounds and is used in this analysis.

Human perception of noise has no simple correlation with acoustical energy. Due to subjective thresholds of tolerance, the annoyance of a given noise source is perceived very differently from person to person. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at 3 feet is approximately 60 dBA, while loud jet engine noises at 1,000 feet equate to 100 dBA, which can cause serious discomfort. Table 13 shows the relationship of various noise levels in dBA to commonly experienced noise events.

TABLE 13
NOISE LEVELS FOR COMMON EVENTS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet fly-over at 300 m (1,000 ft)	100	–
Gas lawn mower at 1 m (3 ft)	90	–
Diesel truck at 15 m (50 ft) at 80 km/hr (50 mph)	80	Food blender at 1 m (3 ft); garbage disposal at 1 m (3 ft)
Noisy urban area, daytime gas lawn mower at 30 m (100 ft)	70	Vacuum cleaner at 3 m (10 ft)
Commercial area, heavy traffic at 90 m (300 ft)	60	Normal speech at 1 m (3 ft)
Quiet urban daytime	50	Large business office, dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
–	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

dBA: A-weighted decibels; m: meter; ft: feet; km/hr: kilometers per hour; mph: miles per hour.

Source: Caltrans 2013.

Two noise sources do not “sound twice as loud” as one source. As stated above, a doubling of noise sources results in a noise level increase of 3 dBA. It is widely accepted that (1) the average healthy ear can barely perceive changes of a 3 dBA

increase or decrease, (2) a change of 5 dBA is readily perceptible, and (3) an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 2013).

From the source to the receiver, noise changes both in the level and frequency spectrum. The most obvious change is the decrease in noise level as the distance from the source increases. Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern. For point sources, such as heating, ventilation, and air conditioning (HVAC) units or construction equipment, the sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance (i.e., if the noise level is 70 dBA at 25 feet, it is 64 dBA at 50 feet). Vehicle movement on a road makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The sound level attenuates or drops off at a rate of 3 dBA per doubling of distance for line sources.

A large object in the path between a noise source and a receiver can significantly attenuate noise levels at that receiver location. The amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain or landform features as well as man-made features (e.g., buildings and walls) can significantly alter noise exposure levels. For a noise barrier to work, it must be high enough and long enough to block the view from the receiver to a road or to the noise source. Effective noise barriers can reduce outdoor noise levels at the receptor by up to 15 dBA.

Several rating scales (or noise “metrics”) exist to analyze the effects of noise on a community. These scales include the equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL). Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, which is the equivalent noise level for that period of time. The period of time averaging may be specified; $L_{eq(3)}$ would be a 3-hour average. When no period is specified, a one-hour average is assumed. Noise of short duration (i.e., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting many seconds, or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, CNEL was developed to account for human sensitivity to nighttime noise. CNEL represents the 24-hour average sound level with a penalty for noise occurring at night. The CNEL computation divides a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned a 5-dBA penalty, and the nighttime sound levels are assigned a 10-dBA penalty prior to averaging with daytime hourly sound levels.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary

sources but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is described as the velocity, and the rate of change of the speed is described as the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction of a project, the operation of construction equipment can cause ground borne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure. Analysis of this type of vibration is best measured in velocity and acceleration.

The three main wave types of concern in the propagation of ground borne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation (known as retrograde elliptical).
- Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.
- Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

The peak particle velocity (PPV) or the root mean square (rms) velocity is usually used to describe vibration amplitudes. The PPV is defined as the maximum instantaneous peak of the vibration signal and the rms is defined as the square root of the average of the squared amplitude of the signal. The PPV is more appropriate for evaluating potential building damage and also used fora evaluating human response.

The units for PPV velocity are normally inches per second (in/sec). Often, vibration is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV velocity levels are in in/sec and all vibration levels are in dB relative to one microinch per second. The threshold of perception is approximately 0.3 PPV. Typically, ground borne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Manmade vibration problems are, therefore, usually confined to short distances (500 feet or less) from the source.

Construction generally includes a wide range of activities that can generate ground borne vibration. In general, blasting and demolition of structures generate the highest vibrations. Heavy trucks can also generate ground borne vibrations, which vary

depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, and other anomalies all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration of normal traffic on streets and freeways with smooth pavement conditions. Trains generate substantial quantities of vibration due to their engines, steel wheels, and heavy loads.

Existing Conditions

The Proposed Project location is located on private property that is situated in a remote area. The Proposed Project location is accessed by private, lightly travelled, un-paved roadways. In addition, the surrounding topography shields the Proposed Project location from view, thus obstructing the line-of-sight between the Proposed Project location and surrounding noise receptors. As such, ambient noise levels are low (high 30 dBA L_{eq} – low 40 dBA L_{eq}) and characteristic of rural, undeveloped areas.

Noise Sensitive Receptors

The State of California defines noise-sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions (State of California 2015). Noise-sensitive land uses typically include residences, hospitals, churches, schools, and libraries, which could all be adversely affected by an increase in noise levels. Noise sensitive receptors in the vicinity of the Proposed Project location include one single-family unit located approximately 0.6-mile northwest of the site at the eastern terminus of Wild Rose Place.

Regulatory Background

Public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise. The Proposed Project is located within Butte County, and this analysis assumes compliance with the noise policies and regulations established by Butte County.

Federal

Federal Transit Administration

The Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) has developed construction impact guidelines shown in Table 14.

TABLE 14
CONSTRUCTION NOISE CRITERIA

1-Hour Criteria (L_{eq})		
Land Use	**Day**	**Night**
Residential	90	80
Commercial	100	100
Industrial	100	100
8-Hour Criteria (L_{eq})		
Land Use	**Day**	**Night**
Residential	80	70
Commercial	85	85
Industrial	90	90

Residential uses are considered to be the most noise sensitive land use; therefore, for purposes of analysis, noise criteria for residential uses are used.

Local

Butte County General Plan 2040

Noise is discussed in the Health and Safety Element of the Butte County General Plan. As stated in the Health and Safety Element, noise is a concern throughout Butte County, but especially in rural areas and in the vicinity of noise-sensitive uses such as residences, schools, and churches. There are several significant noise sources in Butte County including mobile, railroad, and stationary noise sources. The major mobile noise sources in Butte County are roadway traffic, railroads, and airports, with the most prevalent noise source being roadway traffic. Roadway traffic is a constant source of noise compared to the intermittent sounds from the county's railroads and airports. Railroad noise is evaluated using standards developed by the Federal Railroad Administration and the Federal Transit Administration. Airports are required to comply with the noise regulations and standards of the Federal Aviation Administration and Title 21 of the California Code of Regulations. Stationary noise sources are typically associated with commercial, industrial, and public facilities. Significant stationary noise sources in unincorporated Butte County are the Neal Road Recycling and Waste Facility, solid waste transfer stations, aggregate mining operations, general service, commercial, and light industrial uses, recreational uses, parks, and school playing fields (Butte County 2023b).

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

Land use compatibility standards between these uses and noise-producing transportation (i.e., mobile) noise sources are provided in Table 15. There are separate standards for transportation and non-transportation noise sources because they affect different types of noise-sensitive uses in different ways.

TABLE 15
MAXIMUM ALLOWABLE NOISE EXPOSURE TO TRANSPORTATION NOISE SOURCES

	Exterior Noise Level Standard For Outdoor Activity Areas[a]		Interior Noise Standard Level	
Land Use	L_{dn}/CNEL, dB	L_{eq}, dBA[b]	L_{dn}/CNEL, dB	L_{eq}, dBA[b]
Residential	60[c]	–	45	–
Transient lodging	60[c]	–	45	–
Hospitals, nursing homes	60[c]	–	45	–
Theaters, auditoriums, music halls	–	–	–	35
Churches, meeting halls	60[c]	–	–	40
Office buildings	–	–	–	45
Schools, libraries, museums	–	70	–	45
Playgrounds, neighborhood parks	–	70	–	–

L_{dn}/CNEL: Community Noise Equivalent Level; dB: decibel; dBA: A-weighted decibel scale; –: not applicable.

[a] Where the location of outdoor activity areas is unknown, the exterior noise-level standard shall be applied to the property line of the receiving land use.

[b] As determined for a typical worst-case hour during periods of use.

[c] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed, provided that available exterior noise-level reduction measures have been implemented and interior noise levels are in compliance with this table.

Land use compatibility standards between noise sensitive uses and noise-producing non-transportation (i.e., stationary) noise sources are provided in Table 16.

TABLE 16
MAXIMUM ALLOWABLE NOISE EXPOSURE TO NON-TRANSPORTATION SOURCES

Noise Level Description	Urban	Non-Urban	Urban	Non-Urban	Urban	Non-Urban
Hourly L_{eq}, dB	55	50	50	45	45	40
Maximum Level, dB	70	60	60	55	55	50

L_{eq}: Equivalent continuous sound pressure level; dB: decibel.

Notes:

1. "Non-Urban designations" are Agriculture, Timber Mountain, Resource Conservation, Foothill Residential, and Rural Residential. All other designations are considered "urban designations" for the purposes of regulating noise exposure.
2. Each of the noise levels specified above shall be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
3. The County can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the Proposed Project location.
4. In urban areas, the exterior noise level standard shall be applied to the property line of the receiving property. In rural areas, the exterior noise level standard shall be applied at a point 100 feet away from the residence. The above standards shall be measured only on property containing a noise sensitive land use. This measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement between all affected property owners and approved by the County.

In addition, the following Health and Safety policy provides:

HS-P1.9: The following standard construction noise control measures shall be required at construction sites in order to minimize construction noise impacts:

a. Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

b. Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.

c. Utilize quiet air compressors and other stationary noise generating equipment where appropriate technology exists and is feasible. *

Butte County Municipal Code – Chapter 41A Noise Control

The County Noise Ordinance is codified as Chapter 41A of the Codified Ordinances of Butte County. The purpose of the Noise Control Ordinance is to assess complaints of noise alleged to exceed County standards as set forth by the Noise Element of the Butte County General Plan and Noise Control Ordinance and to address violations of these standards.

41A-5 – General noise regulations.

Notwithstanding any other provisions of this chapter and in addition thereto, it is unlawful for any person to willfully make or continue or cause to be made or continued any excessive, unnecessary, or offensive noise levels, which disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area.

The standards which shall be considered in determining whether a violation of the provisions of this section exists shall include, but not be limited to, the following:

(a) The sound level of the objectionable noise;

(b) The proximity of the noise to residential uses;

(c) The time of day or night the noise occurs;

(d) The duration of the noise and its tonal informational or musical content; and

(e) Whether the noise is continuous, recurrent, or intermittent.

41A-7 – Exterior noise standards.

(a) The following noise standards, unless otherwise specifically indicated in this chapter, shall apply to all noise sensitive exterior areas within Butte County.

Noise Level Descriptor	Daytime (7 AM to 7 PM)		Evening (7 PM to 10 PM)		Nighttime (10 PM to 7 AM)	
	Designation					
	Urban	Non-Urban	Urban	Non-Urban	Urban	Non-Urban
Hourly L_{eq}, dB	55	50	50	45	45	40
Maximum Level, dB	70	60	60	55	55	50

L_{eq}: Equivalent continuous sound pressure level; dB: decibel.

(b) It is unlawful for any person at any location within the County to create any noise which causes the noise levels on an affected property, when measured in the designated exterior location, to exceed the noise standards specified above.

(c) Each of the noise limits specified in subdivision (a) of this section shall be reduced by five (5) dBA for recurring impulsive noise, simple or pure tone noise, or for noises consisting of speech or music.

(d) Noise level standards, which are up to five (5) dBA less than those specified above, based upon determination of existing low ambient noise levels in the vicinity of the Proposed Project location may be imposed.

(e) In urban areas, the exterior noise level standard shall be applied to the property line of the receiving property. In non-urban areas, the exterior noise level standard shall be applied at a point one hundred (100) feet away from the residence or at the property line if the residence is closer than one hundred (100) feet. The above standards shall be measured only on property containing a noise sensitive land use.

41A-8 – Interior noise standards.

(a) The following noise standards, unless otherwise specifically indicated in this chapter, shall apply to all noise sensitive interior areas within Butte County.

Noise Level Descriptor	Daytime (7 AM to 7 PM)		Evening (7 PM to 10 PM)		Nighttime (10 PM to 7 AM)	
	Designation					
	Urban	Non-Urban	Urban	Non-Urban	Urban	Non-Urban
Hourly Average (L_{eq})	55	50	50	45	45	40
Maximum (L_{max})	70	60	60	55	55	50

L_{eq}: Equivalent continuous sound pressure level; L_{max}: refers to the highest time-weighted sound level measured by the meter during a given period of time.

(b) It is unlawful for any person at any location within the County to create any noise which causes the noise levels on an affected property, when measured in the designated interior noise sensitive area, to exceed the noise standards specified above.

(c) Each of the noise limits specified in subdivision (a) of this section shall be reduced by five (5) dBA for recurring impulsive noise, simple or pure tone noise, or for noises consisting of speech or music.

41A-9 – Exemptions.

The following activities shall be exempted from the provisions of this chapter:

(a) School bands, school athletic events, and school entertainment events between the hours of 7 AM to 10 PM.

(b) Temporary activities such as Outdoor gatherings, public dances, shows, and sporting and entertainment events, provided said events are conducted pursuant to a license or permit by the County, between the hours of 7 AM to 10 PM unless otherwise set forth in the license or permit.

(c) Uses permitted in the Sports and Entertainment (SE) zone and Recreation Commercial Overlay (REC) zone between the hours of 7 AM to 10 PM.

(d) Activities conducted on parks, public playgrounds, and school grounds, provided such parks, playgrounds, and school grounds are owned and operated by a public entity or private school between the hours of 7 AM to 10 PM.

(e) Any mechanical device, apparatus, or equipment related to or connected with emergency activities or emergency work.

(f) Noise sources associated with construction, repair, remodeling, demolition, paving, or grading of any real property or public works project located within one thousand (1,000) feet of residential uses, provided said activities do not take place between the following hours:

- Sunset to sunrise on weekdays and non-holidays;
- Friday commencing at 6:00 PM through and including 8:00 AM on Saturday, as well as not before 8:00 AM on holidays;
- Saturday commencing at 6:00 PM through and including 10:00 AM on Sunday; and,
- Sunday after the hour of 6:00 PM.

Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work into the hours delineated above and to operate machinery and equipment necessary to complete the specific work in progress until that specific work can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner;

(g) Noise sources associated with agricultural and timber management operations in zones permitting agricultural and timber management uses.

(h) All mechanical devices, apparatus, or equipment which are utilized for the protection or salvage of agricultural crops during periods of adverse weather conditions or when the use of mobile noise sources is necessary for pest control.

(i) Noise sources associated with maintenance of residential area property, provided said activities take place between 7:00 AM to sunset on any day except Saturday, Sunday, or a holiday, or between the hours of 9:00 AM and 5:00 PM on Saturday, Sunday, or a holiday; and, provided machinery is fitted with correctly functioning sound suppression equipment.

(j) Any activity, to the extent provisions of Chapter 65 of Title 42 of the United States Code, and Articles 3 and 3.5 of Chapter 4 of Division 9 of the Public Utilities Code of the State of California preempt local control of noise regulations and land use regulations related to noise control of airports and their surrounding geographical areas, any noise source associated with the construction, development, manufacture, maintenance, testing or, operation of any aircraft engine, or of any weapons system or subsystems which are owned, operated, or under the jurisdiction of the United States, or any other activity to the extent regulation thereof has been preempted by State or federal law or regulation.

(k) Any noise sources associated with the maintenance and operation of aircraft or airports which are owned or operated by the United States.

(l) Private recreational activities (including off-road vehicle operation and gunfire occurring while hunting or target practice consistent with all State laws on private property) taking place during daytime hours (9:00 AM to sunset) that does not exceed an L_{eq} of sixty-five (65) dBA when measured at any point on the property line over any thirty (30) minute period.

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?

Construction Noise

Less than Significant. Construction noise occurring within Butte County is regulated under Chapter 41A-9 of the County Code of Ordinances. This Code exempts noise sources associated with construction, repair, remodeling, demolition, paving, or grading of any real property or public works project located within one thousand (1,000) feet of residential uses, provided said activities do not take place between the following hours: sunset to sunrise on weekdays and non-holidays; Friday commencing at 6:00 PM through and including 8:00 AM on Saturday, as well as not before 8:00 AM on holidays; Saturday commencing at 6:00 PM through and including 10:00 AM on Sunday; and Sunday after the hour of 6:00 PM. STS would implement the construction activities needed for the Proposed Project consistent with the noise requirements contained in the County Code of Ordinances. Construction activities required to facilitate the Proposed Project would occur during the daytime hours.

The western portion of the Proposed Project location would be accessed by construction staff using Access Road #1 depicted in Figure 2, which connects to an existing dirt road, Utility Road 3, which is located to the north of the Proposed Project location. Utility Road 3 connects to Ponderosa Way approximately 0.9-mile west of the Proposed Project location, which provides regional access to Lumpkin Road to the north.

The portion of the Proposed Project location containing the diversion dam and wet well would be accessed using a 0.2-mile in length dirt road that was originally used during the construction of the dam, which connects to Sucker Run Road. This road is referred to as Access Road #3 in Exhibit 2. Over the years, Access Road #3 has eroded and become overgrown with vegetation. Therefore, the Proposed Project would include re-grading this road to permit access as needed. According to STS, Access Road #3 was already cleared of vegetation in March 2024.

The development of the Proposed Project would entail construction activities that would generate noise, including sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location.

The residents of the one residence nearest the Proposed Project location would be subject to elevated noise levels due to the temporary operation of construction equipment needed to implement the Proposed Project. Construction noise levels reported in the U.S. Environmental Protection Agency's (USEPA's) Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances were used to estimate construction noise levels for the Proposed Project (USEPA 1971). Typically, the estimated construction noise levels are governed primarily by equipment that produces the highest noise levels. Construction noise levels for each generalized construction phase (ground-clearing/demolition, excavation, and site cleanup) are based on a typical construction equipment mix and do not include use of atypical, very loud, and vibration-intensive equipment (e.g., pile drivers).

The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity. Estimated noise levels attributable to the Proposed Project are shown in Table 17 and calculations are included in Appendix B. The range in noise exposure levels is due to the varying construction phases and associated distances of these activities that would occur between the Proposed Project location and a noise sensitive receptor.

TABLE 17
CONSTRUCTION NOISE LEVELS AT NOISE-SENSITIVE USES

	Noise Levels (L_{eq} dBA)								
	North – SFR at Eastern Terminus of Wild Rose Place	North – SFR at Eastern Terminus of Wild Rose Place	West – Granite Peak Ct SFR	West – Granite Peak Ct SFR	South – Squaw Flat Rd SFR	South – Squaw Flat Rd SFR	East – Camp Paradise	East – Camp Paradise	Noise Level
Construction Phase	**Max (ft)**	**Avg (ft)**	**Max (ft)**	**Avg (ft)**	**Max (t)**	**Avg (ft)**	**Max (ft)**	**Avg (ft)**	**at 100 ft**
Ground Clearing/ Demolition	45	43	42	39	39	38	26	26	78
Excavation (Site Preparation)	39	37	36	33	33	32	20	20	72
Site Cleanup	45	43	42	39	39	38	26	26	78

L_{eq} dBA: Average noise energy level; Max: maximum; avg: average; ft: feet.

Note: Noise levels from construction activities do not take into account attenuation provided by intervening structures.

Source: USEPA 1971.

Table 17 shows both the maximum and average noise levels for construction equipment. Maximum noise levels represent the noise levels from construction equipment occurring nearest to the noise sensitive use/receptor. Average noise levels represent the noise exposure to sensitive uses based on the distance to the center of the Proposed Project location. Noise levels from general construction activities would range from 23 to 43 L_{eq} dBA for the maximum noise levels and 24 to 47 L_{eq} dBA for the average noise levels. Noise emanating from the Proposed Project location during the construction would be subject to attenuation provided by distance from the construction area to noise sensitive uses. In addition, the topography of the surrounding area would further influence noise as it spreads from the Proposed Project location by reducing noise levels through the obstruction of the line-of-sight between the Site and nearby sensitive receptors. The Proposed Project's construction noise would be substantially below the FTA's noise criterion and consistent with the County's noise limits identified in Table 15. Noise levels of 47 dBA L_{eq} generated during the ground clearing/demolition phase would not exceed the 80 L_{eq} dBA daytime and 70 L_{eq} dBA nighttime noise criteria and consequently would not expose the residential unit located along the west side of Ponderosa Way to excessive levels of noise. As a result, noise associated with

construction of the Proposed Project would not result in significant impacts, and no mitigation is required.

In addition to construction equipment on the Proposed Project location itself, truck trips are needed for delivery of construction equipment and materials as well as the import of fill and export of demolition debris. There would be on average 1–2 truck trips per day needed for hauling of demolition debris and construction equipment. Construction noise generated from truck trips and worker commutes would not be of such magnitude to exceed the exterior noise level standards previously identified in Table 15. Therefore, the potential impacts from roadway noise during the Proposed Project's construction would be less than significant.

Operational Noise

Less than Significant. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. Once the Proposed Project's construction activities are completed, no operational noise impacts would occur.

In summary, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

No Impact. There are no applicable County standards for vibration-induced annoyance or structural damage from vibration. The California Department of Transportation (Caltrans) has adopted vibration damage thresholds, which are shown in Table 18, to assess the potential for structural damage from vibration. The structural damage threshold for "older residential structures" of 0.3 PPV in/sec for continuous/frequent (i.e., intermittent) sources is most applicable to this analysis.

TABLE 18
VIBRATION DAMAGE THRESHOLD CRITERIA

Caltrans Guideline Vibration Damage Potential Threshold Criteria		
	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

PPV: peak particle velocity; in/sec: inches per second.
Source: Caltrans 2020.

The Caltrans vibration annoyance thresholds are shown in Table 19. These thresholds are used to assess the potential for a significant vibration impact for human annoyance; and annoyance is evaluated within occupied buildings.

TABLE 19
VIBRATION ANNOYANCE THRESHOLDS

	Maximum PPV (in/sec)	
Average Human Response	Transient Sources	Continuous/ Frequent Intermittent Sources
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

PPV: peak particle velocity; in/sec: inch(es) per second.
Source: Caltrans 2020.

Pile driving and blasting are generally the sources of the most severe vibration during construction. Neither pile driving nor blasting would be used during implementation of the Proposed Project. Conventional construction equipment would be used for grading activities. Table 20 summarizes typical vibration levels measured during construction activities for various vibration-inducing pieces of equipment.

TABLE 20
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment		PPV at 25 ft (in/sec)
Pile driver (impact)	upper range	1.518
	typical	0.644
Pile driver (sonic)	upper range	0.734
	typical	0.170
Clam shovel drop (slurry wall)		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory roller		0.210
Hoe ram		0.089
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003

PPV: peak particle velocity; ft: feet; in/sec: inches per second.

Source: Caltrans 2020; FTA 2018.

Demolition, grading, and site cleanup would occur at the Proposed Project location, which is not proximate to vibration sensitive uses. Table 21 shows the potential for vibration annoyance from construction-generated vibration activities proposed at the Proposed Project location. Table 21 shows the PPV relative to uses proximate to the Proposed Project location.

TABLE 21
VIBRATION ANNOYANCE AT SENSITIVE USES

	Vibration Levels (PPV)			
	North – SFR at Eastern Terminus of Wild Rose Place	**West – Granite Peak Ct SFR**	**South – Squaw Flat Rd SFR**	**East – Camp Paradise**
Equipment	**(PPV@ 4,435 ft)**	**(PPV @ 6,442 ft)**	**(PPV @ 9,240 ft)**	**(PPV @ 39,855 ft)**
Vibratory roller	0.000	0.000	0.000	0.000
Large bulldozer	0.000	0.000	0.000	0.000
Small bulldozer	0.000	0.000	0.000	0.000
Jackhammer	0.000	0.000	0.000	0.000
Loaded trucks	0.000	0.000	0.000	0.000
Criteria	**0.10**	**.10**	**.10**	**0.10**
Exceeds Criteria?	**No**	**No**	**No**	**No**

PPV: peak particle velocity; ft: feet.

Source: USEPA 1971 (Calculations can be found in Appendix C).

As shown in Table 21, PPV would not exceed the criteria threshold when construction activities occur under maximum (i.e., closest to the receptor) exposure conditions. These vibration levels represent conditions when construction activities occur closest to receptor locations. Construction-related vibration would be substantially less under average conditions when construction activities are located further away. Because vibration levels would be below the significance thresholds, the Proposed Project's construction equipment would not generate strongly perceptible vibration levels at the nearest uses. Therefore, no impacts related to vibration annoyance would occur.

Table 22 shows the PPV levels relative to building damage to sensitive uses from vibration activities. As shown in Table 22, all PPV levels would be below the building damage threshold at adjacent off-site structures. As such, vibration generated during demolition and construction activities would not result in significant impacts related vibration induced annoyance or building damage.

TABLE 22
BUILDING DAMAGE CRITERA AT NEARBY USES

	Vibration Levels (PPV)[1,2]			
	North – SFR at Eastern Terminus of Wild Rose Place	West – Granite Peak Ct SFR	South – Squaw Flat Rd SFR	East – Camp Paradise
Equipment	(PPV @ 4,435 ft)	(PPV @ 6,442 ft)	(PPV @ 9,240 ft)	(PPV @ 39,855 ft)
Vibratory roller	0.000	0.000	0.000	0.000
Large bulldozer	0.000	0.000	0.000	0.000
Small bulldozer	0.000	0.000	0.000	0.000
Jackhammer	0.000	0.000	0.000	0.000
Loaded trucks	0.000	0.000	0.000	0.000
Criteria	**0.3**	**0.3**	**0.3**	**0.3**
Exceeds Criteria?	**No**	**No**	**No**	**No**

PPV: peak particle velocity; ft: feet.

Source: USEPA 1971 (Calculations can be found in Appendix C).

Because of the substantial distances between the Proposed Project location and the nearest buildings, vibration induced annoyance and building damage would not occur. The operations phase of the Proposed Project would not involve machinery or activities that would generate perceptible levels of vibration as the dam would be abandoned and no maintenance trips would be required, nor would the dam site contain any operational equipment. As a result, no construction or operational impacts would occur.

In summary, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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 Proposed Project expose people residing or working in the project area to excessive noise levels?

No Impact. The Proposed Project location is located proximate to two airports: Brownsville Airpark, a private airstrip located approximately 7.14 miles to the south of the Proposed Project location, and Oroville Municipal Airport, located approximately 17.61 miles to the southwest of the Proposed Project location. The Proposed Project location is not located within any airport land use plans or within two miles of an airport.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is 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 road or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Proposed Project location is located in a rural, sparsely developed area. The Proposed Project location does not contain any housing or any population. There is one parcel approximately 0.2 miles to the south of the Proposed Project location that contains a residential trailer.

ANALYSIS

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

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. As such, the Proposed Project would not induce population growth directly within the existing area. The Proposed Project would not require extending or improving infrastructure in a manner that would facilitate off-site growth in Butte County. As such, the Proposed Project would not generate population or directly induce unplanned population growth. Additionally, the Proposed Project would not indirectly induce growth, such as through provision of employment or extension of infrastructure.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project location does not contain any existing housing and there are no people currently residing within the Proposed Project location. Therefore, the Proposed Project would not displace existing people or housing.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

3.15. Public Services

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Fire protection services are provided by the Butte County Fire Department. The closest station to the Proposed Project location is Station 51, Feather Falls, located at 2845 Lumpkin Road and staffed with two fire captains and eight fire fighters (Butte County 2023c).

The Butte County Sheriff provides police protection services for the Proposed Project location. The sheriff's office is located approximately 15 miles west of the Proposed Project location at 5 Gillick Way in Oroville.

ANALYSIS

a)(i) Would the Proposed 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 fire protection?

Less than Significant. During demolition and construction activities, the Proposed Project would increase the need for fire protection services due to the equipment and on-site diesel fuel that would be used on-site. Possible ignition sources such as internal

combustion engines, gasoline-powered tools, and equipment that could produce a spark, fire, or flames would be used during the Proposed Project activities.

To minimize the potential for a wildfire to begin due to construction activities, a Fire Prevention Plan will be developed.

The Proposed Project would not result in direct or indirect population growth. As such, the Proposed Project would not result in a significant increased demand for fire protection services during operation.

In conclusion, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

a)(ii) Would the Proposed 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 police protection?

No Impact. The Proposed Project would not result in direct or indirect population growth, nor would the Proposed Project result in any new buildings or structures that would require police protection services.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

a)(iii) Would the Proposed 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 schools?

No Impact. The Proposed Project would not result in direct or indirect population growth that would generate new students or that could result in an increase in demand for school services.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

a)(iv) Would the Proposed 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 parks?

No Impact. The Proposed Project would not result in direct or indirect population growth that would generate new residents or that could result in an increase in demand for recreational facilities. All lands within the Proposed Project boundary are privately owned and do not provide any recreation opportunities.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

a)(v) Would the Proposed 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 other public facilities?

No Impact. The Proposed Project would not result in direct or indirect population growth that would generate new residents or that could result in an increase in demand for other public facilities, such as libraries.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

3.16. Recreation

Would the project:	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 will occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Open space lands that are located immediately west of the Proposed Project location are owned by United States Bureau of Land Management.

Most of the Proposed Project location's southern and eastern boundaries occur adjacent to parcels that are a part of the Plumas National Forest, which are owned by the United States Forest Service.

ANALYSIS

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 will occur or be accelerated?

No Impact. The Proposed Project would not result in direct or indirect population growth that would generate new residents or that could result in an increase in demand for recreational facilities.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project would not result in direct or indirect population growth that would generate new residents or that could result in an increase in demand for recreational facilities. Also, the Proposed Project would not include the construction of any recreational facilities that would have an adverse physical effect on the environment.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is 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 program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The western portion of the Proposed Project location would be accessed by construction staff using Access Road #1 depicted in Figure 2, which connects to an existing dirt road, Utility Road 3, which is located to the north of the Proposed Project location. Utility Road 3 connects to Ponderosa Way approximately 0.9-mile west of the Proposed Project location, which provides regional access to Lumpkin Road to the north.

The portion of the Proposed Project location containing the diversion dam and wet well would be accessed using a 0.2-mile in length dirt road that was originally used during the construction of the dam, which connects to Sucker Run Road. This road is referred to as Access Road #3 in Exhibit 2. Over the years, Access Road #3 has eroded and become overgrown with vegetation. Therefore, the Proposed Project would include re-grading this road to permit access as needed. According to STS, Access Road #3 was already cleared of vegetation in March 2024.

ANALYSIS

a) Would the Proposed Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact. The programs, plans, ordinances, and policies related to the circulation system within Butte County include the BCAG's 2020–2040 Regional Transportation Plan/Sustainable Communities Plan, the County General Plan Circulation Element, the County Transit and Non-Motorized Transportation Plan, and the County Bicycle Plan.

The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. As such, the Proposed Project includes no activities or features that would alter or interfere with existing transit, roadway, bicycle, or pedestrian facilities.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

Less than Significant. SB 743 was approved in 2013 and changed the method for assessing transportation impacts under CEQA. The Office of Planning and Research has recommended the use of VMT as the required metric to replace the automobile delay-based level of service (LOS). The VMT assessment satisfies CEQA requirements as the metric to determine transportation impacts. The VMT assessment is based on the criteria outlined in the BCAG SB 743 Implementation Study Document (BGAG 2021). According to the BCAG Implementation Study Document, there are several criteria that can be applied to screen projects from VMT project-level assessments. The purpose is to screen out projects that are presumed to have a non-significant transportation impact and to avoid unnecessary analysis and findings that would be inconsistent with the intent of SB 743.

The Proposed Project would result in VMT solely during construction related to the commute trips of construction workers to/from the Proposed Project location. Once built, no VMT would be generated as a result of the Proposed Project.

The County's Implementation Study's identifies five ways to screen out of needing to conduct a full, project-specific VMT study. The Proposed Project would meet the definition of a "Small Project" as discussed in the County's Implementation Study, which is defined as a project estimated to generate or attract fewer than 110 daily vehicle trips. As the Proposed Project would only require approximately ten daily round trips during the two-month construction period, the Proposed Project would meet the definition of a "Small Project" and would not be required to conduct a full VMT analysis pursuant to the County's approach.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

c) Would the Proposed Project 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 would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not involve any changes to existing public roadways. Within the Proposed Project location itself, which is private property, the Proposed Project would include fine grading on a road that is used to access the powerhouse; however, no major changes to the geometry of this road is proposed nor would any new intersections be introduced.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

d) Would the Proposed Project result in inadequate emergency access?

Less than Significant. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not involve any changes to existing public roadways or to fire access trails that could result in inadequate emergency access. The Proposed Project would not introduce any new structures or new residents that would require additional emergency response or that would in any way delay emergency access.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

3.18. Tribal 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 tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

ENVIRONMENTAL SETTING

Consultation under Assembly Bill (AB) 52 began on July 13, 2023, with letters being sent to the following tribes:

- The Honorable Gene Whitehouse (Tribal Chairperson), for the United Auburn Indian Community
- The Honorable Glenda Nelson (Tribal Chairperson), for the Enterprise Rancheria

Neither of the tribes requested consultation during the 30-day period required pursuant to AB 52.

ANALYSIS

a)(i) 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(k)?

No Impact. For purposes of impact analysis, a tribal cultural resource is considered a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American Tribe and is either eligible for the CRHR or a local register. As discussed in Section 3.5 of this IS, there are no known archaeological sites, structures, or cultural resources located within the Proposed Project location, including tribal cultural resources that are currently listed, individually or collectively, in either the NRHP or the CRHR. Additionally, a letter from the SHPO signed by Julianne Polanco (California SHPO officer), dated April 18, 2023, states the efforts to identify historic properties eligible for the NRHP and CRHR were reasonable and notes the SHPO does not object to a finding of no historic properties affected by the proposed Project. As such, the Proposed Project would not have an impact on a tribal cultural resource that is listed or eligible for listing on the CRHR or a local register.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

a)(ii) 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 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 resource to a California Native American tribe?

Less than Significant with Mitigation Incorporated. Based on information available through the record searches at the NIC and the SHPO, there is no information available that indicates there are any known significant tribal resources within the Proposed Project location that would be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code section 5024.1. However, the Proposed Project location is in a region that is currently inhabited by the descendants of the indigenous Maidu. The Maidu used the local region for seasonal and/or permanent settlement, as well as for gathering of plants, roots, seeds, domestic materials, and hunting seasonal game. Therefore, consistent with the requirements of AB 52, the State Water Board sent letters

to tribes that have requested notice of proposed projects in the geographic area traditionally and culturally affiliated with the tribe and for which the State Water Board is lead agency.

Certified letters were sent to the following tribes on July 13, 2023, to determine if any local tribes had additional information or concerns regarding the Project's potential impacts to tribal cultural resources:

- The Honorable Gene Whitehouse (Tribal Chairperson), for the United Auburn Indian Community
- The Honorable Glenda Nelson (Tribal Chairperson), for the Enterprise Rancheria

AB 52 provides tribes 30 days after receiving notification to request consultation. The State Water Board did not receive a response from the tribal representatives listed above; therefore, it is presumed the tribal organizations and their representatives have declined consultation under AB 52. Thus, AB 52 consultation is complete; however, as noted above, it was identified that this area of California was settled by the ancestors of the Maidu and continues to be inhabited by their descendants. Therefore, there is a potential that undiscovered intact cultural resources, including tribal cultural resources eligible for the CRHR or a local register, would be present below the surface in native sediments.

To avoid impacts to tribal cultural resources, the Proposed Project would implement **MM CUL-1,** which requires that a qualified Archaeologist be retained for on-call services in the event of the discovery of archaeological resources during ground disturbing activities. Any discovered resources would be evaluated for significance by the Archaeologist and a mitigation plan would be developed in consultation with the State Water Board and the local Native American community (if resources are precontact in origin). Impacts on tribal cultural resources would be less than significant with implementation of **MM CUL-1**.

Mitigation Measure

MM CUL-1 Prior to commencement of ground disturbance activities (earthmoving) STS shall retain a qualified Archaeologist for on-call services in the event of a discovery of cultural resources during ground disturbance activities. The Archaeologist shall be present at the pre-grade conference; and shall establish, in cooperation with STS, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources (artifacts). Should these resources be found during ground-disturbing activities for the Project, the Archaeologist shall first determine whether it is a "unique archaeological resource" pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2. subdivision (g) of the Public Resources Code), or a "historical resource" pursuant to Section 15064.5, subdivision (a) of the CEQA Guidelines. If the above-mentioned resources are found during earthmoving activities,

the Archaeologist shall formulate a report and a mitigation plan in consultation with the State Water Board and local Native American community (if resources are precontact in origin) that satisfies the requirements of the above-referenced sections. The report shall follow guidelines of the State Historic Preservation Office (SHPO), and s/he shall record the site and submit the recordation form to the State Water Board and the California Historic Resources Information System (CHRIS) at the NIC at California State University, Chico. For all archaeological resources, the disposition of the resources shall be subject to approval by the State Water Board and the local Native American community (if resources are precontact in origin). If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Archaeologist.

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?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

There are no known public utilities that occur within the Proposed Project location.

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

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, abandonment of the existing tailrace within the Proposed Project location. As such, the Proposed Project would not require the relocation or construction of any utility lines that could cause a significant environmental effect.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, abandonment of the existing tailrace within the Proposed Project location. As such, the Proposed Project would not require any potable water from local utility providers.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

c) Would the Proposed Project 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 involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, abandonment of the existing tailrace within the Proposed Project site. As such, the Proposed Project would not require any wastewater conveyance or treatment services be provided by a local utility providers.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

d) Would the Proposed Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant. The Proposed Project would generate solid waste during demolition activities. Upon completion of work activities, all construction debris, barriers, and other waste products would be removed from the Proposed Project location and hauled to a nearby landfill.

The closest landfill facility is the Neal Road Recycling and Waste Facility, which is located at 1023 Neal Road in Paradise, approximately 25 miles northwest of the Proposed Project location. The Neal Road Recycling Facility is permitted to accept municipal solid waste, inert industrial waste, demolition materials, special wastes containing nonfriable asbestos, and septage (at the septage transfer station). The permitted maximum disposal amount at the Neal Road Recycling and Waste Facility is 1,500 tons per day, and the total capacity as of 2020 is 9,953,324 tons. The Neal Road Recycling and Waste Facility's service life is estimated to the year 2055 (Butte County 2023a). As such, the Proposed Project's minimal construction waste stream represents a nominal portion of the landfills remaining capacity. Once construction activities are completed, the Proposed Project would not generate additional solid waste. Therefore, the Proposed Project would not directly exceed capacity of the Neal Road Landfill.

In conclusion, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

e) Would the Proposed Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant. The Proposed Project would generate solid waste during construction activities. STS' contractor would be required to comply with the Butte County Code of Ordinance Section 31-63 related to diversion of construction and demolition (C&D) debris. The Proposed Project would be responsible for diverting at minimum 65 percent of the solid waste materials created by construction and demolition activities if the Project results in 1,000 cubic yards of C&D debris or more.

Therefore, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is 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?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Proposed Project is located within a Very High Fire Hazard Severity Zone within a State Responsibility Area (CALFIRE 2023).

In August 2017, the Proposed Project area was destroyed during the Ponderosa Fire as it swept through Butte County. Several Project facilities were damaged or destroyed, including the powerhouse, all electrical and mechanical equipment, the diversion site access bridge, and the transmission line to the site. During the fire, the California Department of Forestry and Fire Protection (CAL FIRE) issued a mandatory evacuation notice for the Proposed Project area. When the Ponderosa Fire was finally contained on

October 28, 2017, over 4,000 acres and 55 structures were destroyed (Kleinschmidt 2022).

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

No Impact. The closest primary evacuation route within Butte County is SR 162, which is located approximately eight miles west of the Proposed Project site. Butte County also has evacuation plans, routes, access points and assembly points within various sub-regions. Within the Feather Falls sub-region, where the Project is located, the only emergency travel route in Feather Falls is Lumpkin Road going south towards Forbestown Road, and Feather Falls Elementary School is the assembly point (Butte County 2023a).

Additionally, Butte County has adopted a set of Community Evacuation Plans and Maps for communities throughout the county, especially those in wildfire-prone areas. These plans and maps were created as part of implementing the Community Wildfire Protection Plan and are intended to inform residents, visitors, and community members of emergency travel routes, preparedness activities, and the availability of emergency communication methods in the event an evacuation is needed. The Butte County Emergency Operations Plan (EOP) provides procedures for planning for and implementing evacuations and acknowledges that the evacuation of large numbers of people from vulnerable areas may stress the limited capabilities of the roadways and personnel in the county, which may increase the amount of time needed to complete an evacuation and trigger mutual-aid resources. This plan also assumes that limited evacuation road networks may necessitate evacuees to be directed to refuges-of-last-resort if evacuations are terminated prior to full completion (Butte County 2023a).

The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project site. The Proposed Project would not involve any changes to existing public roadways or to fire access trails that could result in inadequate emergency access. The Proposed Project would not introduce any new structures or new residents that would require additional emergency response or that would in any way delay emergency access.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

Less than Significant. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project location. The Proposed Project would not involve any changes to existing public

roadways or to fire access trails that could result in inadequate emergency access. The Proposed Project would not introduce any new structures or new residents that would be exposed to loss, injury, or death involving wildland fires.

During demolition and construction activities, the Proposed Project would increase the need for fire protection services due to the equipment and on-site diesel fuel that would be used on-site. Possible ignition sources such as internal combustion engines, gasoline-powered tools, and equipment that could produce a spark, fire, or flames would be used during the Proposed Project activities.

As part of the Proposed Project STS proposes to develop aa Fire Prevention Plan prior to the beginning of Project activities, which would be implemented throughout the Proposed Project's activities. Based on the limited scope and scale of the project and with implementation of a Fire Prevention Plan, the Proposed Project would not substantially exacerbate wildfire risks.

In conclusion, the Proposed Project would result in a less than significant impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project site. The Proposed Project would use existing roads and infrastructure with only minor grading required to access the Proposed Project site. As such, the Proposed Project would not involve the development of any new infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities that may exacerbate fire risk.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

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

No Impact. The Proposed Project would involve sealing of the existing penstock, filling of the existing wet well, removal of the existing powerhouse and substation, and abandonment of the existing tailrace that are within the Proposed Project site. Additionally, the Proposed Project is located entirely on private property and would not involve the development of any new structures that would be exposed to wildland fires or other secondary effects of wildland fires, such as flooding, landslides, etc.

Therefore, the Proposed Project would result in no impact related to this threshold, and no mitigation is required.

4.0 MANDATORY FINDING OF SIGNIFICANCE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" 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 project, 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?	☐	☒	☐	☐

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

Less than Significant with Mitigation Incorporated. The Proposed Project has the potential to result in significant biological resource effects prior to the implementation of **MM BIO-1** through **MM BIO-8** and **MM WQ-2.**

The Proposed Project has the potential to result in significant cultural and tribal cultural resource effects prior to the implementation of **MM CUL-1** and **MM CUL-2.**

The Proposed Project has the potential to result in significant water quality effects prior to the implementation of **MM WQ-1**, **MM WQ-2, MM WQ-3 and MM WQ-4.**

With implementation of these mitigation measures, the Proposed Project would result in a less than significant impact related to this threshold. Please refer to individual resource sections in Chapter 3 for a complete discussion of potential environmental impact and where applicable, associated mitigation measures.

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 project, and the effects of probable future projects.)?

No Impact. There are no other known cumulative projects within the Proposed Project location or nearby vicinity that would have the potential to contribute cumulatively to the environmental effects of the Proposed Project.

Therefore, the Proposed Project would result in no impact related to this threshold. Please refer to individual resource sections in Chapter 3 for a complete discussion of potential environmental impact and where applicable, associated mitigation measures.

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

Less than Significant with Mitigation Incorporated. The Proposed Project has the potential to result in significant water quality effects prior to the implementation of **MM WQ-1**, **MM WQ-2,MM WQ-3, and MM WQ-4.**

With implementation of these mitigation measures, the Proposed Project would result in a less than significant impact related to this threshold. Please refer to individual resource sections in Chapter 3 for a complete discussion of potential environmental impact and where applicable, associated mitigation measures.

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Appendix A

Air Quality Appendix

Kanaka Dam Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Kanaka Dam
Construction Start Date	7/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.90
Precipitation (days)	57.2
Location	39.56297234607587, -121.29931893155273
County	Butte
City	Unincorporated
Air District	Butte County AQMD
Air Basin	Sacramento Valley
TAZ	219
EDFZ	3
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	0.00	User Defined Unit	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.97	54.7	50.2	0.07	2.44	2.81	5.25	2.25	1.37	3.62	7,985
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.07	9.90	8.99	0.01	0.44	0.51	0.95	0.41	0.25	0.65	1,439
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	1.81	1.64	< 0.005	0.08	0.09	0.17	0.07	0.05	0.12	238

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2024	5.97	54.7	50.2	0.07	2.44	2.81	5.25	2.25	1.37	3.62	7,985
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2024	1.07	9.90	8.99	0.01	0.44	0.51	0.95	0.41	0.25	0.65	1,439
Annual	—	—	—	—	—	—	—	—	—	—	—
2024	0.20	1.81	1.64	< 0.005	0.08	0.09	0.17	0.07	0.05	0.12	238

3. Construction Emissions Details

3.1. Demolition of Powerhouse and substation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	11.2	9.43	0.01	0.49	—	0.49	0.45	—	0.45	1,525
Demolition	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	2.03	1.71	< 0.005	0.09	—	0.09	0.08	—	0.08	276
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.31	< 0.005	0.02	—	0.02	0.01	—	0.01	45.6
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.34	0.00	0.00	0.04	0.04	0.00	0.01	0.01	43.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	25.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	7.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.52
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.75

3.3. Burial of Foundations (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.84	1.01	< 0.005	0.03	—	0.03	0.03	—	0.03	142
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.18	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	25.7

Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.26
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.17	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	21.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	9.09
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.64
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27

3.5. Removal of turbine and generator (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	11.2	9.43	0.01	0.49	—	0.49	0.45	—	0.45	1,525
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	2.03	1.71	< 0.005	0.09	—	0.09	0.08	—	0.08	276
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.31	< 0.005	0.02	—	0.02	0.01	—	0.01	45.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.34	0.00	0.00	0.04	0.04	0.00	0.01	0.01	43.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	7.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Fill well w/ rock, sand, and gravel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	11.2	9.43	0.01	0.49	—	0.49	0.45	—	0.45	1,525
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	2.03	1.71	< 0.005	0.09	—	0.09	0.08	—	0.08	276
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.31	< 0.005	0.02	—	0.02	0.01	—	0.01	45.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.34	0.00	0.00	0.04	0.04	0.00	0.01	0.01	43.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	7.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Fill of Tailrace channel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	11.2	9.43	0.01	0.49	—	0.49	0.45	—	0.45	1,525
Dust From Material Movement	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	2.03	1.71	< 0.005	0.09	—	0.09	0.08	—	0.08	276

Dust From Material Movement	—	—	—	—	—	0.46	0.46	—	0.24	0.24	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.31	< 0.005	0.02	—	0.02	0.01	—	0.01	45.6
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.34	0.00	0.00	0.04	0.04	0.00	0.01	0.01	43.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	21.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	7.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.90
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.65

3.11. Grading of former substation/powerhouse site (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.40	3.64	0.01	0.19	—	0.19	0.17	—	0.17	569
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.61	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	103
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	17.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.17	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	21.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Regrading of road around powerhouse (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.40	3.64	0.01	0.19	—	0.19	0.17	—	0.17	569
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.61	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	103
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	17.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.17	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	21.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. 1 Plate to be Welded (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.38	1.66	< 0.005	0.05	—	0.05	0.04	—	0.04	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.25	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	37.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.23

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Seal Penstock w/ Concrete (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.43	< 0.005	0.03	—	0.03	0.02	—	0.02	81.9
Paving	0.00	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.11	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	14.8
Paving	0.00	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.45
Paving	0.00	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.17	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	21.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition of Powerhouse and substation	Demolition	7/1/2024	9/30/2024	5.00	66.0	—
Burial of Foundations	Site Preparation	7/1/2024	9/30/2024	5.00	66.0	—
Removal of turbine and generator	Site Preparation	7/1/2024	9/30/2024	5.00	66.0	—
Fill well w/ rock, sand, and gravel	Site Preparation	7/1/2024	9/30/2024	5.00	66.0	—
Fill of Tailrace channel	Site Preparation	7/1/2024	9/30/2024	5.00	66.0	—
Grading of former substation/powerhouse site	Grading	7/1/2024	9/30/2024	5.00	66.0	—
Regrading of road around powerhouse	Grading	7/1/2024	9/30/2024	5.00	66.0	—
1 Plate to be Welded	Building Construction	7/1/2024	9/30/2024	5.00	66.0	—
Seal Penstock w/ Concrete	Paving	7/1/2024	9/30/2024	5.00	66.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition of Powerhouse and substation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Demolition of Powerhouse and substation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Burial of Foundations	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Removal of turbine and generator	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Removal of turbine and generator	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Fill well w/ rock, sand, and gravel	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Fill well w/ rock, sand, and gravel	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Fill of Tailrace channel	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Fill of Tailrace channel	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading of former substation/powerhouse site	Graders	Diesel	Average	1.00	8.00	148	0.41
Regrading of road around powerhouse	Graders	Diesel	Average	1.00	8.00	148	0.41
1 Plate to be Welded	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Seal Penstock w/ Concrete	Pumps	Diesel	Average	1.00	8.00	11.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition of Powerhouse and substation	—	—	—	—
Demolition of Powerhouse and substation	Worker	5.00	10.3	LDA,LDT1,LDT2

Demolition of Powerhouse and substation	Vendor	—	4.50	HHDT,MHDT
Demolition of Powerhouse and substation	Hauling	0.33	20.0	HHDT
Demolition of Powerhouse and substation	Onsite truck	—	—	HHDT
Burial of Foundations	—	—	—	—
Burial of Foundations	Worker	2.50	10.3	LDA,LDT1,LDT2
Burial of Foundations	Vendor	—	4.50	HHDT,MHDT
Burial of Foundations	Hauling	0.12	20.0	HHDT
Burial of Foundations	Onsite truck	—	—	HHDT
Grading of former substation/powerhouse site	—	—	—	—
Grading of former substation/powerhouse site	Worker	2.50	10.3	LDA,LDT1,LDT2
Grading of former substation/powerhouse site	Vendor	—	4.50	HHDT,MHDT
Grading of former substation/powerhouse site	Hauling	0.00	20.0	HHDT
Grading of former substation/powerhouse site	Onsite truck	—	—	HHDT
Removal of turbine and generator	—	—	—	—
Removal of turbine and generator	Worker	5.00	10.3	LDA,LDT1,LDT2
Removal of turbine and generator	Vendor	—	4.50	HHDT,MHDT
Removal of turbine and generator	Hauling	0.00	20.0	HHDT
Removal of turbine and generator	Onsite truck	—	—	HHDT
Seal Penstock w/ Concrete	—	—	—	—
Seal Penstock w/ Concrete	Worker	2.50	10.3	LDA,LDT1,LDT2
Seal Penstock w/ Concrete	Vendor	—	4.50	HHDT,MHDT
Seal Penstock w/ Concrete	Hauling	0.00	20.0	HHDT

Seal Penstock w/ Concrete	Onsite truck	—	—	HHDT
Fill well w/ rock, sand, and gravel	—	—	—	—
Fill well w/ rock, sand, and gravel	Worker	5.00	10.3	LDA,LDT1,LDT2
Fill well w/ rock, sand, and gravel	Vendor	—	4.50	HHDT,MHDT
Fill well w/ rock, sand, and gravel	Hauling	0.00	20.0	HHDT
Fill well w/ rock, sand, and gravel	Onsite truck	—	—	HHDT
Fill of Tailrace channel	—	—	—	—
Fill of Tailrace channel	Worker	5.00	10.3	LDA,LDT1,LDT2
Fill of Tailrace channel	Vendor	—	4.50	HHDT,MHDT
Fill of Tailrace channel	Hauling	0.29	20.0	HHDT
Fill of Tailrace channel	Onsite truck	—	—	HHDT
Regrading of road around powerhouse	—	—	—	—
Regrading of road around powerhouse	Worker	2.50	10.3	LDA,LDT1,LDT2
Regrading of road around powerhouse	Vendor	—	4.50	HHDT,MHDT
Regrading of road around powerhouse	Hauling	0.00	20.0	HHDT
Regrading of road around powerhouse	Onsite truck	—	—	HHDT
1 Plate to be Welded	—	—	—	—
1 Plate to be Welded	Worker	0.00	10.3	LDA,LDT1,LDT2
1 Plate to be Welded	Vendor	0.00	4.50	HHDT,MHDT
1 Plate to be Welded	Hauling	0.00	20.0	HHDT
1 Plate to be Welded	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition of Powerhouse and substation	0.00	0.00	0.00	1,901	—
Burial of Foundations	60.0	—	0.00	0.00	—
Fill of Tailrace channel	150	—	33.0	0.00	—
Seal Penstock w/ Concrete	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.8	annual days of extreme heat
Extreme Precipitation	27.3	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	53.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	5	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	5	1	1	4
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	74.2
AQ-PM	4.59
AQ-DPM	1.82
Drinking Water	52.8
Lead Risk Housing	28.0
Pesticides	18.3
Toxic Releases	0.45

Traffic	0.29
Effect Indicators	—
CleanUp Sites	79.7
Groundwater	47.9
Haz Waste Facilities/Generators	81.5
Impaired Water Bodies	58.7
Solid Waste	91.0
Sensitive Population	—
Asthma	47.4
Cardio-vascular	80.6
Low Birth Weights	84.5
Socioeconomic Factor Indicators	—
Education	53.4
Housing	33.7
Linguistic	14.9
Poverty	82.4
Unemployment	99.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	28.34595149
Employed	0.872577955
Median HI	12.13909919
Education	—
Bachelor's or higher	29.93712306

High school enrollment	100
Preschool enrollment	15.03913769
Transportation	—
Auto Access	75.69613756
Active commuting	31.06634159
Social	—
2-parent households	24.38085461
Voting	58.86051585
Neighborhood	—
Alcohol availability	91.89015783
Park access	26.72911587
Retail density	0.590273322
Supermarket access	2.399589375
Tree canopy	99.34556653
Housing	—
Homeownership	80.14885153
Housing habitability	38.59874246
Low-inc homeowner severe housing cost burden	55.88348518
Low-inc renter severe housing cost burden	8.238162453
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	12.7678686
Arthritis	0.0
Asthma ER Admissions	28.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	3.6
Cognitively Disabled	4.9
Physically Disabled	1.0
Heart Attack ER Admissions	15.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	69.7
SLR Inundation Area	0.0
Children	84.0
Elderly	9.7
English Speaking	98.1
Foreign-born	3.2
Outdoor Workers	25.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8

Traffic Density	1.9
Traffic Access	0.0
Other Indices	—
Hardship	66.6
Other Decision Support	—
2016 Voting	48.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	61.0
Healthy Places Index Score for Project Location (b)	17.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Data provided by applicant

Construction: Off-Road Equipment	Data provided by applicant.
Construction: Dust From Material Movement	Data provided by applicant

Appendix B

Energy Appendix

Energy Use Summary

Construction Phase (gallons/construction perioc	Gasoline	Diesel
Construction Vehicles	573	8,700
Worker Trips	892	2
Vendor Trips	0	0
Haul Trucks	0	146
Total	**1,466**	**8,848**

Offroad Construction Equipment Energy Use

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per	Hours Per Da	Horsepower	Load Factor	Horsepower Category	Num Days	Year	Fuel Consumption Rate (gal/hour)	Fuel Type	Total Fuel Consumption (gal/construction period)
Demolition of Powerhouse and su	Excavators	Diesel	Average	1	8	36	0.38	175	66	2024	2.9	Diesel	579
Demolition of Powerhouse and su	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4	300	66	2024	4.6	Diesel	978
Burial of Foundations	Excavators	Diesel	Average	1	8	36	0.38	175	66	2024	2.9	Diesel	579
Removal of turbine and generator	Excavators	Diesel	Average	1	8	36	0.38	175	66	2024	2.9	Diesel	579
Removal of turbine and generator	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4	300	66	2024	4.6	Diesel	978
Fill well w/ rock, sand, and gravel	Excavators	Diesel	Average	1	8	36	0.38	175	66	2024	2.9	Diesel	579
Fill well w/ rock, sand, and gravel	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4	300	66	2024	4.6	Diesel	978
Fill of Tailrace channel	Excavators	Diesel	Average	1	8	36	0.38	175	66	2024	2.9	Diesel	579
Fill of Tailrace channel	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4	300	66	2024	4.6	Diesel	978
Grading of former substation/pow	Graders	Diesel	Average	1	8	148	0.41	175	66	2024	3.2	Diesel	684
Regrading of road around powerh	Graders	Diesel	Average	1	8	148	0.41	175	66	2024	3.2	Diesel	684
1 Plate to be Welded	Welders	Diesel	Average	1	8	46	0.45	50	66	2024	2.4	Gasoline	573
Seal Penstock w/ Concrete	Pumps	Diesel	Average	1	8	11	0.74	100	66	2024	1.3	Diesel	524

Total Gasoline	**573**
Total Diesel	**8,700**
	9,273

Onroad Construction Energy Use

Year 2024

Vehicle Types	MPG by Fuel Type					Population by Fuel Type					
	Gasoline	Diesel	Electricity	Natural Gas	Plug-in Hybrid	Gasoline	Diesel	Electricity	Natural Gas	Plug-in Hybrid	Total
LDA	29.3	41.2	0.4	0.000	28.2	5,451,205	15,009	284,963	0	152,679	5,903,856
LDT1	24.4	23.4	0.4	0.000	28.0	505,255	186	1,243	0	739	507,423
LDT2	23.9	31.9	0.4	0.000	27.9	2,551,917	8,409	16,572	0	21,729	2,598,626
LHDT1	13.6	20.5	0.6	0.000	0.0	205,772	107,344	793	0	0	313,909
LHDT2	11.9	17.3	0.6	0.000	0.0	32,210	47,494	205	0	0	79,909
MCY	41.5	0.0	0.0	0.000	0.0	248,270	0	0	0	0	248,270
MDV	19.5	23.7	0.4	0.000	27.6	1,622,854	20,420	18,088	0	13,081	1,674,443
MH	4.9	10.1	0.0	0.000	0.0	30,227	12,282	0	0	0	42,510
MHDT	5.2	8.9	1.0	8.3	0.0	25,496	117,140	365	1,526	0	144,526
HHDT	4.0	6.1	1.8	6.0	0.0	66	101,735	317	10,386	0	112,504
OBUS	5.1	7.0	1.1	8.8	0.0	5,427	3,049	12	487	0	8,975
SBUS	8.9	7.3	1.2	4.2	0.0	2,859	3,436	23	3,247	0	9,564
UBUS	7.0	6.6	2.1	3.2	0.0	894	14	132	5,035	0	6,076
						10,682,454	436,518	322,712	20,681	188,228	11,650,593

Daily Trips							Gasoline Consumption			Diesel Consumption		
Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker	Vendor	Haul	Worker	Vendor	Haul
Demolition of Powerhouse ar	5	0	0.33	10.3	4.5	20						
Burial of Foundations	3	0	0.12	10.3	4.5	20						
Grading of former substation	3	0	0	10.3	4.5	20						
Removal of turbine and gene	5	0	0	10.3	4.5	20						
Seal Penstock w/ Concrete	3	0	0	10.3	4.5	20						
Fill well w/ rock, sand, and gr	5	0	0	10.3	4.5	20						
Fill of Tailrace channel	5	0	0.29	10.3	4.5	20						
Regrading of road around po	3	0	0	10.3	4.5	20						
1 Plate to be Welded	0	0	0	10.3	4.5	20						
Total Trips												
Demolition of Powerhouse ar	330	0	21.78	10.3	4.5	20	139	0	0	0	0	65
Burial of Foundations	198	0	7.92	10.3	4.5	20	84	0	0	0	0	24
Grading of former substation	198	0	0	10.3	4.5	20	84	0	0	0	0	0
Removal of turbine and gene	330	0	0	10.3	4.5	20	139	0	0	0	0	0
Seal Penstock w/ Concrete	198	0	0	10.3	4.5	20	84	0	0	0	0	0
Fill well w/ rock, sand, and gr	330	0	0	10.3	4.5	20	139	0	0	0	0	0
Fill of Tailrace channel	330	0	19.14	10.3	4.5	20	139	0	0	0	0	57
Regrading of road around po	198	0	0	10.3	4.5	20	84	0	0	0	0	0
1 Plate to be Welded	0	0	0	10.3	4.5	20	0	0	0	0	0	0
Total							**892**	**0**	**0**	**2**	**0**	**146**

Appendix C

Noise Appendix

Construction Generated Noise

Building Type		Distance (ft)
Construction Noise at 50 Feet (dBA Leq)		50
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	84	
Excavation	78	
Foundation Construction	88	
Building Construction	78	
Finishing and Site Cleanup	84	

North - Ponderosa Way Residence		
Maximum Construction Noise (dBA Leq)		3,660
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	47	
Excavation (Site Preparation)	41	
Foundation Construction	51	
Building Construction	41	
Paving	47	
Average Construction Noise (dBA Leq)		5,345
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	43	
Excavation (Site Preparation)	37	
Foundation Construction	47	
Building Construction	37	
Paving	43	

West - Granite Peak Court SFR		
Maximum Construction Noise (dBA Leq)		6,520
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	42	
Excavation (Site Preparation)	36	
Foundation Construction	46	
Building Construction	36	
Paving	42	
Average Construction Noise (dBA Leq)		9,105
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	39	
Excavation (Site Preparation)	33	
Foundation Construction	43	
Building Construction	33	
Paving	39	

South - Squaw Flat Road SFR		
Maximum Construction Noise (dBA Leq)		9,000
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	39	
Excavation (Site Preparation)	33	
Foundation Construction	43	
Building Construction	33	
Paving	39	
Average Construction Noise (dBA Leq)		9,980
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	38	
Excavation (Site Preparation)	32	
Foundation Construction	42	
Building Construction	32	
Paving	38	

East - Woodleaf Tunnel Road Residence		
Maximum Construction Noise (dBA Leq)		25,540
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	30	
Excavation (Site Preparation)	24	
Foundation Construction	34	
Building Construction	24	
Paving	30	
Average Construction Noise (dBA Leq)		27,450
Construction Phase	**Minimum Required Equipment in Use**[1]	
Ground Clearing/Demolition	29	
Excavation (Site Preparation)	23	
Foundation Construction	33	
Building Construction	23	
Paving	29	

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the USEPA, December 31, 1971. Based on analysis for Office Building, Hotel, Hospital, School, and Public Works.