

PG&E Remote Grid Installation Project at Whitaker's Forest Research Station

Draft Initial Study/Mitigated Negative
Declaration

August 2022



now



PG&E Remote Grid Installation Project at Whitaker's Forest
Research Station
Draft Initial Study/ Mitigated Negative Declaration

Prepared for:

University of California, Berkeley
300 A&E Building, Berkeley, CA 94720-1382
Phone: (510) 642-6796
Email: rbreines@berkeley.edu

Contact: Raphael Breines, Senior Planner

Prepared by:

Cardno, now Stantec
295 US 50, Suite 1, Zephyr Cove, Nevada 89449
Phone: (775) 210-7128
www.cardno.com www.stantec.com

Contact: Patricia Sussman, Senior Environmental Planner

August 2022

Table of Contents

1	Introduction	1-1
1.1	Introduction and Regulatory Guidance	1-1
1.2	Summary of Findings	1-2
1.3	Document Organization	1-3
2	Project Description	2-1
2.1	Project Location	2-1
2.2	Background	2-6
2.3	Goal and Objectives	2-7
2.4	Description of the Project	2-7
2.5	Project Construction	2-9
2.6	Operations and Maintenance	2-13
2.7	Permits	2-13
3	Environmental Impacts and Mitigation Measures	3-1
3.1	Aesthetics	3-8
3.2	Air Quality	3-11
3.3	Biological Resources	3-15
3.4	Cultural Resources	3-27
3.5	Energy	3-33
3.6	Geology and Soils	3-35
3.7	Greenhouse Gas Emissions	3-39
3.8	Hazards and Hazardous Materials	3-42
3.9	Hydrology and Water Quality	3-46
3.10	Noise	3-50
3.11	Tribal Cultural Resources	3-53
3.12	Utilities and Service Systems	3-55
3.13	Wildfire	3-58
3.14	Mandatory Findings of Significance	3-61
4	References	4-1
5	List of Preparers	5-1

Tables

Table 2–1.	Summary of Excavations Required for the Project.....	2-8
Table 3–1.	Special-status Species within 5 Miles of the Project	3-17

Maps

Map 2–1.	Project Vicinity.....	2-3
Map 2–2.	Project Location	2-4

Figures

Figure 2–1.	Proposed Location of the Project, Adjacent to Forest Service Road 14S75 (View is West)	2-5
Figure 2–2.	Alternate View of Proposed Location of the Project (View is Northwest).....	2-5
Figure 2–3.	Rendering of SPS Based on Design Plans	2-9

Acronyms and Abbreviations

BMPs	Best Management Practices
BUG	Backlight, Uplight, and Glare
CAAQS	California Ambient Air Quality Standards
CALFIRE	California Department of Forestry and Fire Protection
CAP	Climate Action Plan
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CO ₂	carbon dioxide
CRHR	California Register of Historical Resources
EIR	Environmental Impact report
Forest Service	United States Department of Agriculture – Forest Service
GHG	greenhouse gas

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO _x	nitrogen oxides
NRIS	Natural Resource Information Systems
O&M	Operation and maintenance
O ₃	ozone
PG&E	Pacific Gas & Electric
PM	particulate matter
SJVAPCD	San Joaquin Valley Air Pollution Control District
SPS	standalone power system
SWPPP	Stormwater Pollution Prevention Plan
UC Berkeley	University of California, Berkeley
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOCs	volatile organic compounds

1 Introduction

1.1 Introduction and Regulatory Guidance

This Initial Study/Mitigated Negative Declaration has been prepared by the University of California, Berkeley (UC Berkeley), to evaluate potential environmental effects resulting from the Pacific Gas & Electric (PG&E) Remote Grid Installation Project at Whitaker's Forest Research Station (Project). The Project is located within Whitaker's Forest, an approximately 350-acre forest plot owned and managed by UC Berkeley. Whitaker's Forest is in Tulare County, California. Chapter 2, "Project Description," provides a detailed description of the Project.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). An Initial Study is prepared by a lead agency to determine if a project may have a significant effect on the environment (State CEQA Guidelines Section 15063[a]) and thus to determine the appropriate environmental document to prepare. In accordance with State CEQA Guidelines Section 15070, a "public agency shall prepare...a proposed negative declaration or mitigated negative declaration...when: (a) The Initial Study shows that there is no substantial evidence...that the project may have a significant impact on the environment, or (b) The Initial Study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions would reduce potentially significant effects to a less-than-significant level." In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the project would not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report (EIR). By contrast, preparation of an EIR is required when the project may have a significant environmental impact that cannot clearly be reduced to a less-than-significant effect by adoption of mitigation or by revisions in the project design.

As described in the environmental checklist (Chapter 3), the Project would not result in any significant environmental impacts that cannot be mitigated to a less-than-significant level. Therefore, an Initial Study/Mitigated Negative Declaration is the appropriate document for compliance with the requirements of CEQA. This Initial Study/Mitigated Negative Declaration conforms to these requirements and to the content requirements of State CEQA Guidelines Section 15071.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of the project. UC Berkeley is considering a discretionary action to approve the Project and therefore is the lead agency. The purpose of this document is to present to

decision-makers and the public information about the environmental consequences of implementing the Project.

This disclosure document is being made available to the public for review and comment. This Initial Study/Mitigated Negative Declaration will be available for a 30-day public review period from August 12, 2022, to September 13, 2022, at: [UC Berkeley website](https://capitalstrategies.berkeley.edu/environmental-review) (website address: <https://capitalstrategies.berkeley.edu/environmental-review>).

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

Raphael Breines
Senior Planner, Physical & Environmental Planning
University of California, Berkeley
300 A&E Building, Berkeley, CA 94720-1382
Phone: (510) 642-6796
Email: rbreines@berkeley.edu

1.2 Summary of Findings

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the Project. Based on the issues evaluated in that chapter, it was determined that the Project would have either no impact, a less-than-significant impact, or a less-than-significant impact with mitigation imposed related to all of the issue areas identified in the Environmental Checklist, included as Appendix G of the State CEQA Guidelines. These include the following resource areas:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources

- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal and Cultural Resources
- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance

1.3 Document Organization

This Initial Study/Mitigated Negative Declaration is organized as follows:

- **Chapter 1 Introduction** provides an introduction to the environmental review process and the purpose of this document, presents a summary of findings, and describes the organization of this document.
- **Chapter 2 Project Description** describes the location of the Project and its goal and objectives and provides a detailed description of the Project—including details pertaining to Project construction; operations and maintenance; and expected permits.
- **Chapter 3 Environmental Impacts and Mitigation Measures** analyzes a range of environmental resource areas identified in the CEQA Environmental Checklist (Appendix G of the State CEQA Guidelines) and determines if the Project would result in no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, or a potentially significant impact. As discussed above, none of the impacts were determined to be significant after incorporation of identified mitigation measures.
- **Chapter 4 References** lists the references used in preparation of this Initial Study/Mitigated Negative Declaration.
- **Chapter 5 List of Preparers** identifies report preparers.

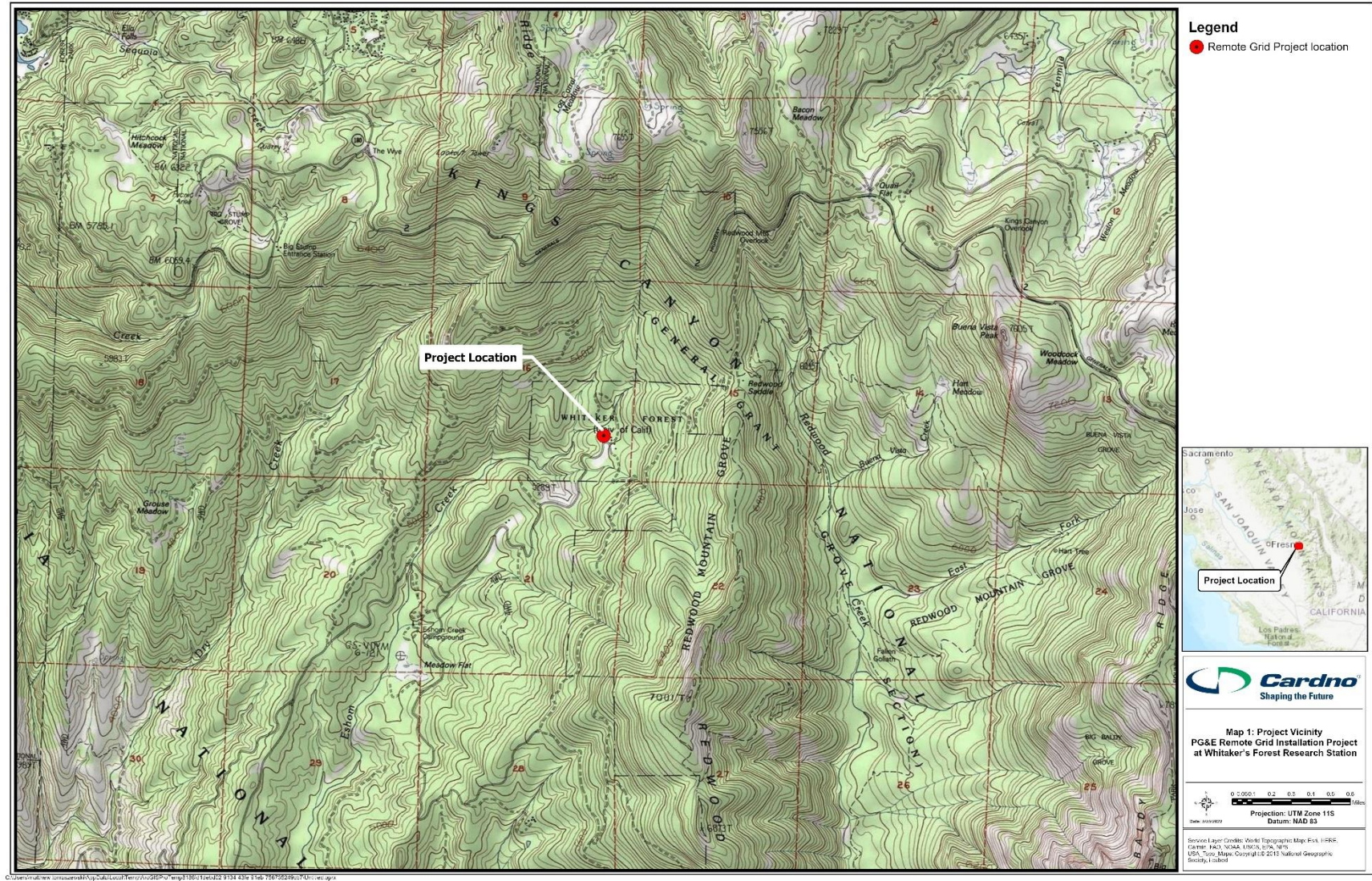
2 Project Description

Pacific Gas & Electric (PG&E) is proposing the PG&E Remote Grid Installation Project at Whitaker's Forest Research Station (Project). The Project would install a new remote solar micro-grid, referred to as a standalone power system (SPS), at the Whitaker's Forest Research Station within Whitaker's Forest. Whitaker's Forest is owned and managed by University of California, Berkeley (UC Berkeley), and surrounded by public forest land in Tulare County, California. Once installed, the Project would provide existing residential structures on-site with a consistent and reliable source of electricity that would replace the need for the existing overhead electric distribution lines. PG&E will be responsible for operation and maintenance (O&M) of the facility. The Project consists of a 12-panel solar array mounted on the roof of a new shipping container. Supporting infrastructure includes battery storage, a new driveway, and a new underground conduit between the solar array and the residential structures. The Project is part of PG&E's Remote Grids Pilot Program, a program within PG&E's Community Wildfire Safety Program.

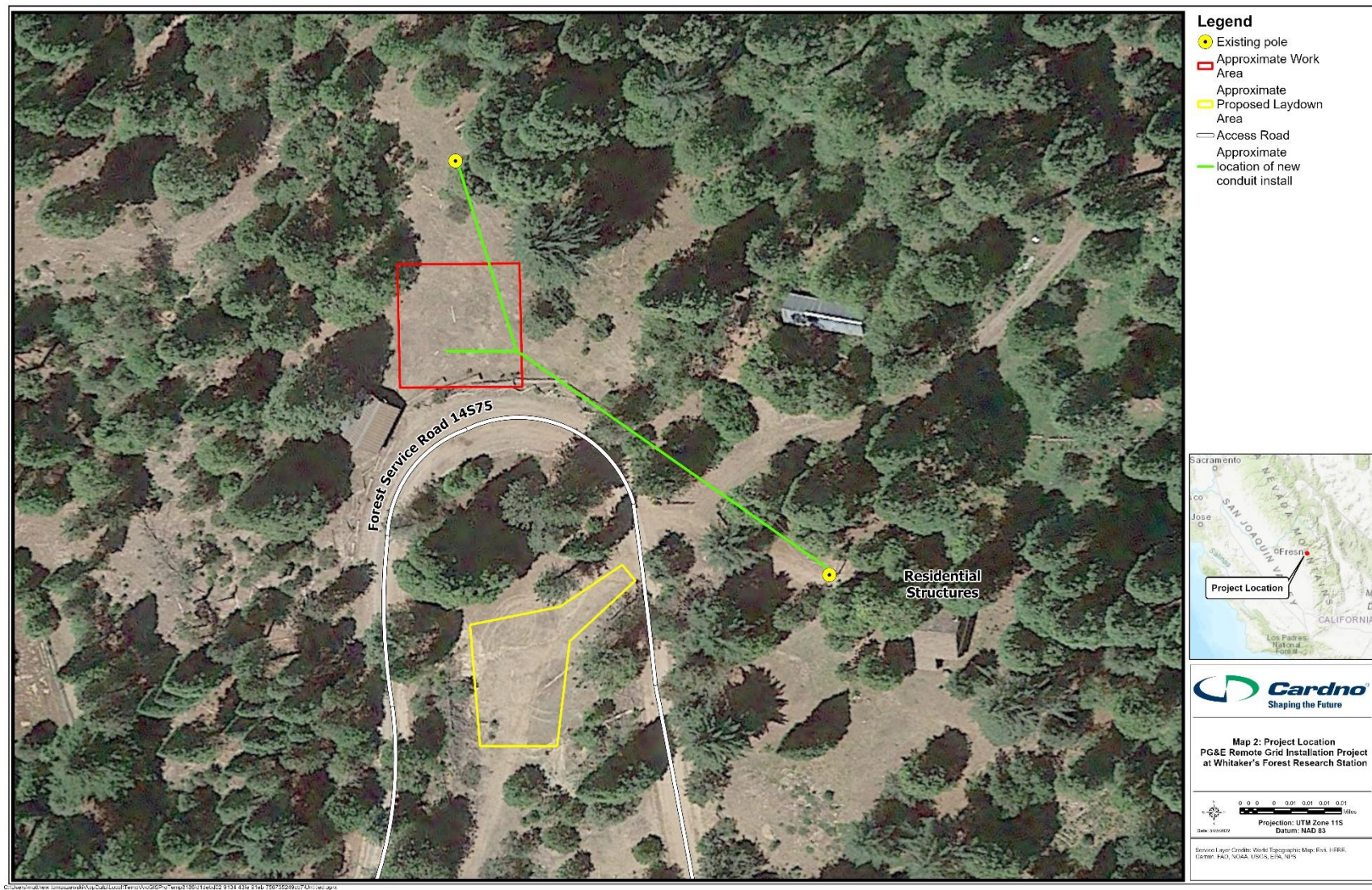
2.1 Project Location

Whitaker's Forest is approximately 350 acres of forested land managed by UC Berkeley on the western slope of the central Sierra Nevada in Tulare County, California. The assessor's parcel number 001-070-017. Whitaker's Forest is within Township 14 South, Range 28 East, Section 16 on the General Grant Grove, California, 7.5-minute United States Geological Survey (USGS) topographic quadrangle map. It is surrounded by public lands: Sequoia National Forest and Kings Canyon National Park. Within Whitaker's Forest, the Project site consists of approximately 0.13 acre of land on the north side of United States Department of Agriculture – Forest Service (Forest Service) Road 14S75. Forest Service Road 14S75 may be accessed from State Route 180 or State Route 245. The Project site is approximately 200 feet northwest of two existing residential structures used by UC Berkeley to house researchers during the summer months. The nearest community to the Project site is Wilsonia, a census-designated place approximately 2.57 miles northwest of the research station. The Project site is at an elevation of 5,386 feet above mean sea level. Coordinates for the approximate location of the Project are 36°42.10.8"N, 118°55'58.9"W (36.703006, -118.933025). Access to the Project site is via Forest Service Road 14S75. The proposed laydown area (i.e., staging area) for machinery and materials used during construction is an existing disturbed area that is approximately 0.12 acre and approximately 200 feet uphill from the Project site. The staging area is accessible via a driveway from Forest Service Road 14S75.

Refer to Map 2–1 for the Project's vicinity and Map 2–2 for a detailed illustration of the Project site, access route, and staging area. Figures 2–1 and 2–2 are photos of the locations where the proposed SPS would be constructed.



Map 2-1. Project Vicinity



Map 2-2. Project Location



Source: Cardno, now Stantec, May 2022

Figure 2-1. Proposed Location of the Project, Adjacent to Forest Service Road 14S75 (View is West)



Source: Cardno, now Stantec, May 2022

Figure 2-2. Alternate View of Proposed Location of the Project (View is Northwest)

2.2 Background

Whitaker's Forest is one of five research forests operated by UC Berkeley to develop and test watershed management strategies and science-based solutions to wildfire-related challenges under numerous climate change scenarios (University of California 2022). At Whitaker's Forest, UC Berkeley has conducted ecological research on permanent forest plots in California dating back to 1915, with a focus on improving the understanding and management of giant sequoia (*Sequoiadendron giganteum*) forests (University of California 2022).

There are two residential structures at Whitaker's Forest to which PG&E currently provides electricity: one large, three-bedroom house and a one-room cabin. There is also a second one-room cabin on-site, but it is not serviced by electricity. Currently only the larger three-bedroom house is used as a residential accommodation (e.g., to house UC Berkeley staff and visitors). The residential structures are utilized mostly in the summer months by researchers affiliated with UC Berkeley's College of Natural Resources. The two structures are adjacent to one another and are accessible from Forest Service Road 14S75. Electricity to the residential structures is currently provided by PG&E overhead distribution lines. Due to their remote location in a high-elevation forested area, these distribution lines frequently endure damage from winds and downed trees, particularly during the winter months. As a result, electrical power to the residential structures is sometimes lost for days or longer, compromising UC Berkeley's ability to regularly use the facilities. In addition, downed and damaged lines exacerbate the risk of wildfire ignition in an area identified as a "very high" fire hazard severity zone by the California Department of Forestry and Fire Protection (CALFIRE) (CALFIRE 2007). In the fall of 2021, the KNP Complex Fire burned 88,307 acres (InciWeb 2021), including significant acreage within Sequoia and Kings Canyon National Parks immediately adjacent to Whitaker's Forest (National Park Service 2021), and acreage within Whitaker's Forest as well.

PG&E's Community Wildfire Safety Program addresses safety concerns throughout several western states confronted with growing wildfire risk and longer wildfire seasons. PG&E estimates that nearly one-third of the electric lines that provide customers with power are now in High Fire-Threat District areas as designated by the California Public Utilities Commission. Historically the company has followed regulatory requirements and standard industry practices for vegetation management and equipment inspections and maintenance, but the increased number of dead trees, drought, hotter temperatures, and higher winds due to climate change have radically increased the risk of a significant wildfire in the event of an ignition (PG&E 2021). Accordingly, PG&E has identified the reduction of wildfire ignition potential as a key strategy to address wildfire risk conditions that face its service territory and the state of California. The company's strategies to reduce wildfire ignition potential include enhanced vegetation

management, asset inspection and repair, system hardening, and public safety power shutoffs (PG&E 2021). Installation of an SPS system at Whitaker's Forest is a system hardening strategy. System hardening entails replacing or eliminating existing distribution lines in High Fire-Threat District areas and installing stronger and more resilient equipment. The proposed SPS will run independently from the larger electric grid system and will use a combination of solar power and battery storage to provide a continuous source of power year-round, eliminating the need for UC Berkeley to rely on the existing overhead distribution lines for electricity.

2.3 Goal and Objectives

The goal of the Project is to provide safe, reliable, and clean (emission-free) electricity to the Whitaker's Forest Research Station with infrastructure that decreases service interruptions and eliminates the need to service the research station with the existing overhead electrical lines.

Anticipated Project benefits include:

- Provision of an independent system with fewer electric service interruptions due to severe weather or public safety power shutoff impacts.
- An opportunity for PG&E to remove the existing overhead distribution lines in the future, thereby reducing powerline maintenance and operational costs as well as reducing wildfire ignition risk caused by downed or damaged power lines.

2.4 Description of the Project

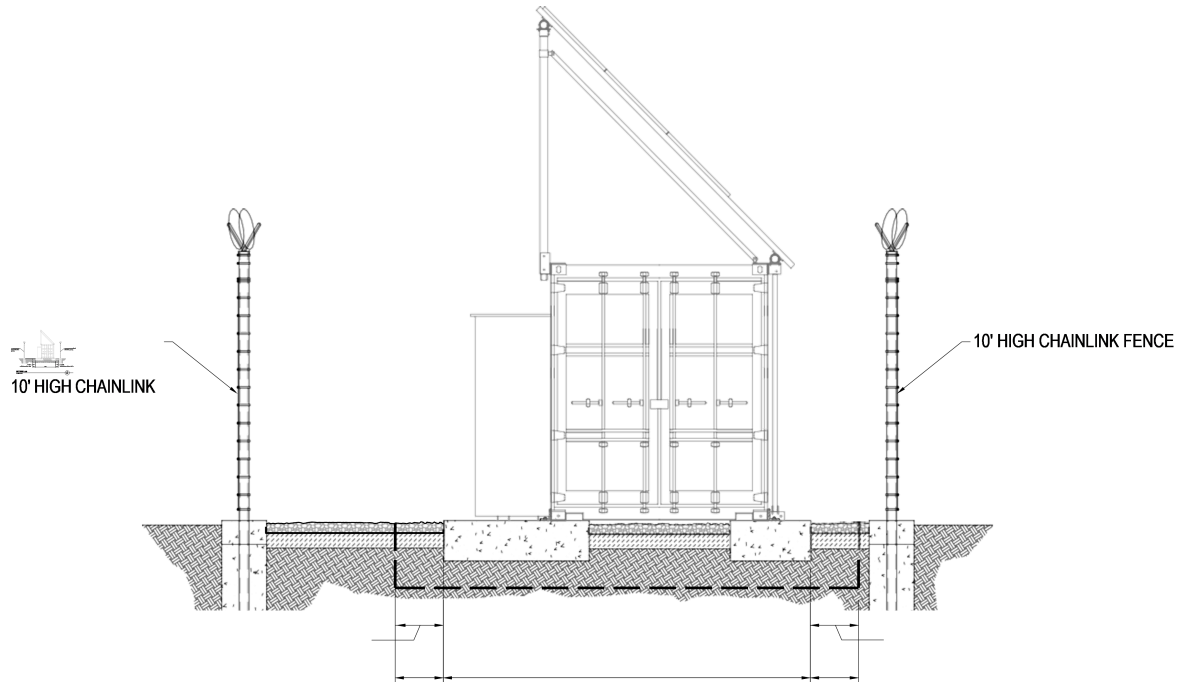
The SPS will be contained within a small utility yard, approximately 30 feet by 24 feet that will be surrounded by a 10-foot-high galvanized chain-link security fence that will include access gates and razor wire. The SPS itself consists of a shipping container (approximately 20 feet long by 10 feet wide) on a concrete foundation (approximately 25 feet long by 14 feet wide) with 12 solar panels mounted on its roof. Batteries to store the solar-generated power will be mounted inside the shipping container. An electrical switchboard enclosure will be mounted on an additional concrete pad (approximately 5 feet long by 5 feet wide) adjacent to the shipping container. Permanent lighting will be installed to illuminate all valves and switches necessary to shut down the SPS in an emergency. The lighting fixtures will be LEDs and their placement limited to within the fenced area of the SPS. Lighting intensity will consist of a minimum of 2 foot-candles (equivalent to approximately 22 lumens) that will be controlled by motion sensors. Motion detection range will be limited to the areas containing the SPS equipment and will not exceed the fence line. Backlight, Uplight, and Glare (BUG) rating will be taken into consideration so that least amount of light trespass possible occurs while still maintaining the required foot-candles.

Approximately 365 linear feet of underground conduit with new electrical conductors will run from the shipping container to the existing residential structures (south of the SPS) to provide electrical service. In addition, a new gravel driveway, approximately 3,100 square feet, will be installed adjacent to the west of the fenced SPS to provide access from Forest Service Road 14S75. The total work area for the proposed SPS and driveway is approximately 0.13 acre. The total area where equipment and materials are planned to be staged is approximately 0.12 acre. Therefore, the total approximate Project footprint during construction (inclusive of both the Project site and staging area) is 0.25 acre.

Table 2–1 describes the approximate dimensions of ground-disturbance activities anticipated for the Project, and Figure 2–3 provides a basic rendering of the SPS and shed from the conceptual design plans. Map 2–2 illustrates the location of the work area (inclusive of the SPS and driveway) and of the laydown area (staging area for equipment and materials).

Table 2–1. Summary of Excavations Required for the Project

Number of Excavations	Approximate Dimensions (all dimensions are approximate in width, length, and depth)	Purpose
1	25 feet long by 14 feet wide by 1.5 feet deep	Install new concrete foundation for permanent shipping container structure, which will house batteries and serve as the foundation for solar photovoltaic array.
1	62 inches long by 60 inches wide by 28 deep inches	Install new pad-mounted electrical switchboard enclosure.
11	1-foot diameter by 3 feet deep	Place concrete footings to install new security fencing. Typical of spacing on 64 feet of perimeter including gate posts.
2	8-inch diameter by 15 feet deep	Excavate borings to discover geotechnical information for site design.
Not applicable	2 feet deep by 356 feet long by 4 feet wide	Install new conduit via open-cut trenching and place new electrical conductor within.
Not applicable	3,100 square feet by 0.5 foot deep	Install new gravel driveway. No more than 6 inches of excavation/ground disturbance is assumed.
Not applicable	362 square feet by 0.5 foot deep	Install gravel within fenced area. No more than 6 inches of excavation/ground disturbance is assumed.



Source: Blair, Church & Flynn Consulting Engineers, November 2021

Figure 2–3. Rendering of SPS Based on Design Plans

2.5 Project Construction

Project construction is anticipated to begin in fall of 2022 and be completed within 3 months. If design plans and construction contracts are not ready by the fall of 2022, then the Project would likely be completed in the summer of 2023 but could be completed earlier pending weather conditions and associated site access for construction. Because the site has historically received reliable snowpack during the winter months, access and construction to the SPS is not anticipated to be possible during the snow season. To avoid disturbance of fisher, a special-status mammal with the potential to occur in and around Whitaker's Forest Research Station, no construction would be completed during fisher denning season: March 1 to June 30.

Consistent with CALFIRE defensible space requirements, all vegetation within 25 feet of the SPS equipment would be removed (providing a clean fire zone), and all vegetation within 100 feet of the SPS equipment would be pruned (providing a reduced fire zone) prior to construction. The proposed site for the SPS is sparsely vegetated, and vegetation removal is anticipated to be limited to a few small Jeffrey pines (*Pinus jeffreyi*) (less than 6 inches diameter) and shrubs, including manzanita (*Arctostaphylos* spp.) adjacent to Forest Service Road 14S75. A larger unidentified evergreen conifer (genus *Pinus*) northeast of the location for the proposed SPS is just outside the vegetation clearance zone but could be removed or pruned following CALFIRE's inspection of the facility. All giant sequoia trees will be left undisturbed. Trees identified

within the Project site for removal will be cut down to a minimum depth of 3 inches or to the bottom of the root ball, whichever is deeper. No vegetation removal or trimming is planned at the staging area or along access routes.

A licensed geotechnical engineer will oversee the placement of all fill material used to support the foundations of any structure and ensure fill is placed in compliance with the Project geotechnical report specifications. A soils compaction report will be submitted to the engineer of record. The contractor will implement dust control measures as required by the Project specifications and by governing public agencies. In addition, as indicated in the design notes of the preliminary design plans (Blair, Church & Flynn Consulting Engineers 2021), the contractor shall field-verify the exact location, size, depth, and type of all existing utilities and interferences situated along the route of the proposed construction prior to commencement of excavation, fabrication, and installation and shall construct all improvements in such a manner as to avoid and protect all existing underground utilities.

2.5.1 Access and Staging

Primary access to the Project site is via Forest Service Road 14S75; this road is not paved, and a four-wheel drive vehicle is recommended to access the site.

The proposed laydown area (i.e., staging area) for machinery and materials during construction is immediately across Forest Service Road 14S75 from the main residential house and roughly 200 feet uphill and to the south of the Project site. The staging area is an existing disturbed site, graded within the last 20 to 30 years and large enough (approximately 0.12 acre) to accommodate all anticipated equipment and materials. There would be no vegetation removal or ground disturbance at the staging area.

2.5.2 Construction Equipment and Timing

The use of construction equipment is required for site preparation and the installation of the SPS. The presence of slow-moving construction equipment would be limited to bringing equipment to the Project site and returning equipment after work is completed. During the 3 months of Project installation, large equipment will be staged in already disturbed areas off the access road and out of the line of traffic. Construction equipment anticipated to be used during the course of the Project includes:

- Crane truck for transfer of SPS equipment and materials
- Backhoe for excavation
- Dump truck (hauler)
- Soil backfill compaction equipment
- Line truck
- Bucket trucks
- Crew trucks

Approximately eight PG&E crew members (necessitating two to three crew trucks) would be involved in locating and constructing the SPS and associated infrastructure during the 3-month construction period. Construction activities would take place during weekdays and normal working hours (e.g., 7 a.m. to 5 p.m.).

2.5.3 Demobilization

Upon completion of the work, PG&E and its contractors will remove equipment, construction materials, and debris from work and staging areas. Any existing PG&E equipment and materials will be removed from the Project site and transported to a PG&E facility for proper disposal or recycling. All surfaces outside the work area will be restored to preconstruction conditions.

2.5.4 Construction Best Management Practices

PG&E Distribution has identified the following general field protocols and best management practices (BMPs) to be adhered to during Project construction.

- Vehicles and equipment will park only on pavement, existing roads, and previously disturbed areas to the extent practicable.
- The Project footprint and access will be minimized by using existing rights-of-way and roads. Off-road access, blading, and vegetation clearing will be kept to the minimum necessary to safely complete the Project.
- Vehicle speeds on unpaved roads and rights-of-way will not exceed 15 miles per hour.
- Trash dumping, firearms, open fires (such as barbecues), hunting, and pets will be prohibited. All food-related items shall be removed from the Project site daily to prevent attracting wildlife.
- No vehicles will be refueled within 100 feet of a wetland, stream, or other waterway, unless secondary containment is used.
- Standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's *Storm Water Field Manual for Construction Best Management Practices*) will be used to prevent construction site runoff into wetlands, waterways, and/or covered species habitat. Stockpiled soil within established work area boundaries will be located so as not to enter waterbodies, stormwater inlets, or other standing bodies of water. Stockpiled soil will be covered prior to precipitation events.
- The potential for covered species to seek refuge or shelter in pipes, culverts, construction materials, and equipment will be minimized. Pipes and culverts with diameter wide enough to be entered by a covered species that could inhabit the

area where pipes are stored will be inspected for wildlife species prior to moving pipes and culverts. Construction materials and equipment will also be inspected prior to moving materials or equipment operation. A biologist will be immediately contacted if a covered species is suspected or discovered. Open trenches or steep-walled holes will be fitted with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife is found, a biologist will be notified and will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.

- If an active bird nest is observed within or near Project sites, work must cease and care taken not to disturb the nest; in this event, the work supervisor should contact the PG&E Project biologist.
- If a plant or animal is found at the work site and is believed to be a protected species, work must be safely halted and the PG&E Project biologist contacted for guidance. The individual shall be allowed to leave the site of its own volition, and care shall be taken not to harm the species. Other than as specified in the design plans and/or required by CALFIRE, no wildlife or plant species shall be handled and/or removed from the site by anyone except for the PG&E Project biologist or their delegate biologist.
- To help prevent the spread of noxious weeds, any and all vehicles, equipment, materials, personnel, clothing, and so on shall be inspected for dirt, debris, and vegetation matter (potentially transmitting noxious weeds/seeds) prior to entering and exiting work locations. If dirt, debris, or vegetation matter is detected, it shall be cleaned, removed, and/or disposed of in a trash receptacle or discarded at the point of origin. Cleaning of vehicles, equipment, and materials can be accomplished via use of mechanical means (e.g., brushing) or compressed air.

In addition to these general environmental BMPs, to ensure protection of special-status species with potential to occur in the area, PG&E plans to implement a worker environmental awareness training conducted by a qualified biologist for all personnel. The on-site worker environmental awareness training will cover special-status species with potential to occur and avoidance and minimization measures. A PG&E biologist will be contacted at least 2 weeks prior to work to schedule the training.

2.6 Operations and Maintenance

PG&E would remain responsible for operations and maintenance of the Project over time, including vegetation management requirements consistent with CALFIRE regulations, and would maintain an easement to access the site with UC Berkeley. PG&E on-site inspections are expected to range between one and four times per year, with any identified maintenance completed at that time or as a follow-up to each inspection.

2.7 Permits

PG&E is working with UC Berkeley on rights of access, licenses, and easements (as applicable) to develop the SPS, stage materials, and operate and maintain the Project. No encroachment, development, or building permits from Tulare County are expected to be required for installation of the Project. Per Tulare County Code, Part VII, Chapter 15, Article 7 (Section 1360), a grading permit is not anticipated to be required based on the relatively level site and the quantity of material estimated to be to be moved (less than 1,250 cubic yards).

The State Water Resource Control Board requires construction activities that meet a certain size threshold (generally 1 acre or more of soil disturbance) to obtain a Construction General Permit, which requires the development of a Stormwater Pollution Prevention Plan (SWPPP). PG&E uses regional programmatic SWPPPs for many of the projects undertaken in support of its Wildfire Risk Mitigation Program. Though the soil disturbance associated with this Project is not anticipated to exceed 1 acre, the Project will be included in PG&E's programmatic SWPPP that is held for the overall PG&E System Hardening Program. A supplemental site-specific SWPPP document will be developed for the Project and attached to PG&E's programmatic SWPPP for all Wildfire Risk Mitigation Program projects within the Central Valley Regional Water Quality Control Board's southern jurisdiction (Region 5F).

3 Environmental Impacts and Mitigation Measures

APPENDIX G
ENVIRONMENTAL CHECKLIST FORM
PROJECT INFORMATION

1. *Project title:*

Pacific Gas and Electric (PG&E) Remote Grid Installation Project at Whitaker's Forest Research Station

2. *Lead agency name and address:*

University of California, Berkeley, 300 A&E Building, Berkeley, California 94720 (UC Berkeley)

3. *Contact person and phone number:*

Raphael Breines: (510) 642-6796

4. *Project location:*

Whitaker's Forest Research Station, approximately 2.57 miles northwest of Wilsonia, in Tulare County, California, along Forest Service Road 14S75. Coordinates for the approximate location of the Project are 36°42.10.8"N, 118°55'58.9"W (36.703006, -118.933025).

5. *Project sponsor's name and address:*

University of California, Berkeley, 300 A&E Building, Berkeley, California 94720

6. *General plan designation:*

Agriculture Preservation AG-1

7. *Zoning:*

Agricultural Zone A-1

8. *Description of Project. Describe the whole action involved, including, but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.*

The Project proposes to install a new remote solar micro-grid referred to as a standalone power system (SPS) within Whitaker's Forest to provide a more consistent and reliable source of power to the existing facility. The Project is located on land characterized by coniferous forest and rural land uses. The use of large construction equipment will be used to prepare the site and to install equipment required for the

SPS. The SPS consists of a shipping container on a concrete foundation with 12 solar panels mounted on its roof. The SPS will be contained within a small utility yard, that will be surrounded by a chain-link security fence. Batteries to store the solar-generated power will be mounted inside the shipping container. A new underground conduit will run to the existing facilities (residential structures) to provide electrical service. Access to the Project site is via Forest Service Road 14S75. The approximate Project footprint (inclusive of the SPS and adjacent driveway) is 0.13 acre. The total area of disturbance associated with the Project (inclusive of the site for the SPS as well as the staging area for equipment during construction) is approximately 0.25 acre. Refer to Chapter 2, Project Description.

9. *Surrounding Land Uses and Setting: Briefly describe the project's surroundings.*

The Project site is located within Whitaker's Forest, which is managed by UC Berkeley. The land surrounding Whitaker's Forest is federal public land: Sequoia National Forest and Kings Canyon National Park.

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

PG&E contacted Tulare County and does not expect the Project will require encroachment, development, or building permits. Neither is a grading permit anticipated to be required by the county. UC Berkeley is working with PG&E to provide the appropriate license and maintenance easements for construction and operation of the facility. No other agency approvals are required.

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.?*

UC Berkeley has completed tribal consultation pursuant to Public Resources Code Section 21080.3 and has formally notified eight tribes about the Project. The 30-day period within which tribes may respond to the request for consultation concluded for seven of the eight tribes in early July 2022. The tribal consultation period for the remaining tribe contacted concluded August 5, 2022. None of the tribes requested consultation.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- | | |
|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture / Forestry Resources |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Biological Resources |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality |
| <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION

On the basis of this initial evaluation:

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



Wendy Hillis, UC Berkeley Campus Architect,
Assistant Vice Chancellor

August 11, 2022

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-Than-Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. No earlier CEQA analyses were used in preparation of this document.
6. The explanation of each issue should identify:
 - a. the significance criteria or threshold, if any, used to evaluate each question; and
 - b. the mitigation measure identified, if any, to reduce the impact to less than significance

ENVIRONMENTAL TOPICS NOT DISCUSSED

The Project would have no impact on select resource areas and these topics are not discussed further in this Initial Study. A brief explanation as to why the Project would not affect these resources areas is provided below:

Agricultural and Forest Resources

The Project does not include development that would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use (Farmland Mapping and Monitoring Program 2017). The Project site does not contain land subject to Williamson Act contracts, and the agricultural land use would remain the same after implementation of the Project. Whitaker's Forest does not include any land zoned as forest land, timberland, or timberland production (Conservation Biology Institute 2014), and the Project would not result in any new land uses that would conflict with the existing agricultural zone. The proposed site for the SPS is sparsely vegetated, and vegetation removal is anticipated to be limited to a few small Jeffrey pines (*Pinus jeffreyi*) (less than 6 inches diameter) and shrubs, including manzanita (*Arctostaphylos* spp.) adjacent to the Forest Service Road 14S75. No other vegetation removal along the access route or at the staging route is planned. Therefore, the Project would have no impact, and the topic is not discussed further in this Initial Study.

Land Use and Planning

The Project would not divide an established community and is an existing allowable use within Whitaker's Forest consistent with Tulare County's General Plan and zoning code for the area. The Project does not conflict with any land use plan, policy, or regulation, but may support county and statewide efforts to reduce sources of wildlife ignition. Implementation of the Project would have no impact to land use or planning; this topic is not discussed further in this Initial Study.

Mineral Resources

The Project site has no known mineral resources of potential value and is not within a mapped Mineral Resource Zone, as defined by the Surface Mining and Reclamation Act (California Geological Survey [CGS] 2015) or by the Tulare County General Plan (Tulare County 2012). Therefore, the Project would have no impact on availability or known mineral resources, and the topic is not discussed further in this Initial Study.

Population and Housing

The Project does not propose any facilities or modifications that would result in indirect or direct population growth. The Project does not include the development of new homes, businesses, or infrastructure, nor would it displace existing homes or people.

Therefore, the Project would have no impact on population and housing, and these topics are not discussed further in this Initial Study.

Public Services

The Project does not involve any new government facilities, the alteration of any government facilities, or the need for new governmental facilities. The Project would not include new residences or otherwise create a situation in which fire protection service ratios, response times, or other performance objectives could not be met. The Project will provide a reliable electrical power source to a UC Berkeley-owned and operated research facility in a remote location through installation of an SPS composed of solar panels and battery storage. There would be no impact.

Recreation

There are no existing recreational facilities within Whitaker's Forest Research Station, and no new recreational facilities would be constructed as a part of the Project. The Project does not include and would not require the expansion or increase use of existing recreational facilities within the region. Therefore, the Project would have no impact on recreational facilities, and the topic is not discussed further in this Initial Study.

Transportation/Traffic

The Project site is in a remote portion of Whitaker's Forest accessible via Forest Service Road 14S75. Public transit, bicycle, and pedestrian facilities are not available. The Project-generated traffic associated with construction activities would involve slow-moving construction equipment traveling to the Project site at the beginning of the Project (one trip) and traveling from the Project site after installation is complete/use of that equipment has expired (one trip). Approximately eight PG&E crew members (necessitating two to three crew trucks) would access the site each work day. Daily traffic would involve several construction worker vehicles traveling daily to and from the Project site (e.g., crew trucks) over the course of the 3-month construction period. This minimal amount of Project-generated traffic would not affect any applicable plan, ordinance, or policy related to transportation system performance.

During the 3 months of Project installation, large equipment would be staged in already disturbed areas off the access road and out of the line of traffic. The Project would not alter existing roadway design features that would substantially increase hazards due to geometric design feature or incompatible uses. Once the Project is completed, on-site inspections are expected to range from one to four times per year and would not present additional impacts to traffic flow or transportation activities. Therefore, the Project would have no impact to transportation or traffic, and this topic is not discussed further in this Initial Study.

3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the Project:

Environmental Issues	Impact Determination
a. Have a substantial adverse effect on a scenic vista?	No Impact
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less-Than-Significant Impact
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less-Than-Significant Impact

3.1.1 Setting

Whitaker's Forest and the surrounding area is remote, and the visual setting is dominated by a moderately dense forested environment that includes several large trees, including giant sequoia, as well as a variety of other conifers and shrubs, such as incense cedar (*Calocedrus decurrens*), Jeffrey pine, and manzanita. The Project site is a clearing located immediately north of Forest Service Road 14S75, an unimproved (dirt) road. Within the clearing, vehicle tread marks are visible through sparse grass. An old and unused barn borders the clearing to the west. North of the clearing is a large giant sequoia that partially burned in a recent fire. East of the clearing is a large propane tank shaded by overhanging branches. Southeast and slightly uphill of the site, the clearing extends to a driveway, overgrown with grasses, and the residential structures. An overhead electrical line extends from a pole at the northern edge of the clearing south and east toward the residential structures. In general, the density of the surrounding forest obscures any views beyond the foreground of the area.

3.1.2 Discussion

a. Have a substantial adverse effect on a scenic vista?

Impact Determination. No impact.

A scenic vista is generally considered to be a location from which the public can experience unique and exemplary high-quality views, typically from elevated vantage points that offer panoramic views of breadth and depth. There are no scenic vistas from the Project site or of the Project site. Therefore, there would be no impact.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Impact Determination. No impact.

The Project would be located in an already cleared area with no visible scenic resources present. No large trees, rock outcroppings, or historic buildings would be removed or damaged as part of the Project. Therefore, there would be no impact.

c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?

Impact Determination. Less-Than-Significant Impact

The Project would introduce a new and modern structure into an environment dominated by a natural setting. The few existing buildings at the site are older and mostly composed of natural colored wood. The only public views of the area are those from Forest Service Road 14S75, an unimproved Forest Service Road from which no other recreation facilities or destinations are easily accessible and that is impassable in the winter. While the SPS would be visible from Forest Service Road 14S75, it would not be the only modern visual intrusion on the landscape—two propane tanks and existing electrical lines and poles are already present in the area. Based on the lack of any frequently utilized public views and considering the presence of other modern infrastructure, the Project's impact would be less than significant.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Impact Determination. Less-Than-Significant Impact

As described in Section 2.4, permanent lighting will be installed to illuminate all valves and switches necessary to shut down the SPS in an emergency. The lighting fixtures will be LEDs and their placement limited to the fenced area of the SPS. Lighting intensity will consist of a minimum of two foot-candles (equivalent to approximately 22 lumens) and will be controlled by motion sensors. Motion detection range will be limited to the areas of the SPS equipment and will not exceed the fence line. BUG rating will be taken into consideration so that the least amount of light trespass possible occurs while still maintaining the required amount of foot-candles. Nighttime views that may be impacted by the new lighting will be minimized by the limited area of permanent lighting (within the fenced area of the SPS), the expected lumens associated with the permanent lighting fixtures (22 lumens), and, especially, the fact that the lighting will be controlled by motion sensors (only

illuminating the controls when triggered). Design and installation that takes into account BUG ratings will also reduce impacts. Therefore, the new lighting would be a less-than-significant impact.

3.2 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:

Environmental Issues	Impact Determination
a. Conflict with or obstruct implementation of the applicable air quality plan?	No Impact
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Less-Than-Significant Impact
c. Expose sensitive receptors to substantial pollutant concentrations?	Less-Than-Significant Impact
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less-Than-Significant Impact

3.2.1 Setting

The Project is located at an elevation of 5,386 feet above mean sea level on the western slope of the central Sierra Nevada in Tulare County. It is within the San Joaquin Valley Air Basin, which is managed by the San Joaquin Valley Air Pollution Control District (Air Pollution Control District). The dominant anthropogenic sources of air pollution in Tulare County are mobile sources, contributing volatile organic compounds (VOCs), carbon monoxide (CO), particulate matter (PM), and nitrogen oxides (NO_x), and agricultural sources, which contribute VOCs and PM. VOCs are also generated from natural processes in plants and trees (Tulare County 2012).

The Air Pollution Control District is designated "Nonattainment/Severe" for 1-hour ozone (O₃) and "Nonattainment" for 8-hour O₃, PM₁₀, and PM_{2.5} for the California Ambient Air Quality Standards (CAAQS). For the National Ambient Air Quality Standards (NAAQS) the district is designated "Nonattainment/Extreme" for the 8-hour O₃ and "Nonattainment" for PM_{2.5}.

The Tulare County General Plan lays out policies to reduce and mitigate air pollution in Section 9, Air Quality. It states that the county will coordinate its efforts with local jurisdictions, such as the Air Pollution Control District, and state and federal agencies to enforce applicable air quality plans and work toward attainment of CAAQS and NAAQS. Additional policies specify that best available control measures should be implemented to minimize air pollution and maintain high visibility toward the mountains (Tulare County 2012).

3.2.2 Discussion

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

Impact Determination. No Impact.

The Air Pollution Control District air quality plans include the 2016 Ozone Plan, 2020 Reasonable Available Control Measures Demonstration for 2015 8-Hour Ozone Standard, and the 2018 Plan for PM_{2.5} Standards. These plans focus on reducing ozone precursors, NO_x, VOCs, and PM_{2.5}. According to the Air Pollution Control District's *Guidance for Assessing and Mitigating Air Quality Impacts*, a project would "Not conflict or obstruct implementation of the District's air quality plan" if project emissions are below the thresholds of significance for criteria pollutants (Air Pollution Control District 2015). Air Pollution Control District daily thresholds are 100 pounds per day (pounds per day) for any criteria pollutant (Air Pollution Control District 2012).

Construction equipment will be operated intermittently over the 3-month duration of Project construction. Construction equipment and vehicle trips will contribute small amounts of criteria pollutants during their operation. Based on horsepower hours of equipment operated, emissions associated with construction and operations and maintenance will be well under the Air Pollution Control District thresholds of 100 pounds per day for all criteria pollutants, including NO_x, the predominant combustion exhaust pollutant. Specifically, and based on the Air Pollution Control District's Small Project Analysis Level screening guidance, the Project may contribute, in total, between 0.25 pound per day and 2 pounds per day of criteria pollutant emissions during the active construction period.¹ Additionally, site preparation may result in fugitive dust emissions, but these emissions would mostly be PM₁₀ as opposed to PM_{2.5}. In addition, the minimal area of ground disturbance (approximately 0.13 acre) would not result in generation of significant fugitive dust and the implementation of construction BMPs outlined in Section 2.5.4 (such as not exceeding 15 miles per hour on unpaved roads and keeping off-road access, blading, and vegetation clearing to the minimum necessary) would reduce fugitive dust.

Because the only source of criteria emissions generated by the proposed Project would be associated with construction activities and O&M activities, and because these emissions would be very minor and well within the thresholds for criteria pollutants established by the Air Pollution Control District, the Project would not

¹ Based on the Air Pollution Control District's Small Project Analysis Level screening guidance—which was based on the air modeling tool, CalEEMod—projects in which the total combined horsepower hours for all equipment operated within a 24-hour period are less than 18,278 would not exceed Air Pollution Control District criteria pollutant thresholds (i.e., 10 tons NO_x per year and/or 100 pounds of NO_x per day). The Air Pollution Control District's 2012 analysis found that an excavator operating for 8 straight hours in a day would result in 157 horsepower hours, equivalent to about 0.785 of NO_x.

conflict with or obstruct implementation of the Air Pollution Control District's air quality plan.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Impact Determination. Less than significant.

As described in Section 3.2.1 above, the Air Pollution Control District is designated "Nonattainment/Severe" for 1-hour O₃ and "Nonattainment" for 8-hour O₃, PM₁₀, and PM_{2.5} for CAAQS, and for the NAAQS the Air Pollution Control District is designated "Nonattainment/Extreme" for the 8-hour O₃ and "Nonattainment" for PM_{2.5}.

The Project's contribution of criteria pollution emissions during construction will be extremely minimal, likely between 0.25 pound per day and 2 pounds per day during the active period of Project construction (3 months). Project maintenance will have minimal emissions resulting from one to four maintenance vehicle trips per year and from vegetation management equipment. Project operation will have no criteria pollutant emissions.

The Air Pollution Control District has guidance to determine if a project may have a significant impact on air quality based on its size and number of vehicle trips. The size of this Project is imperceptible in its contribution of any emissions compared to examples of small-scale projects that the Air Pollution Control District indicates would contribute to a cumulatively considerable increase in any criteria pollutant. For example, the Air Pollution Control District notes that for a 4-year university/college land use type, a project that may be considered to have a cumulatively considerable increase in criteria pollutants would be one that increases students by at least 1,200 and increases average daily one-way trips for all fleet vehicles by more than 1,000.

Ultimately, with no operational emissions, four or less maintenance trips per year, and construction of only one SPS, the Project would not contribute substantively to a cumulatively considerable increase in any criteria pollutants for which the Air Pollution Control District is not in attainment. Furthermore, this Project guarantees that the electricity provided to cabins at Whitaker's Forest Research Station will be from a clean energy source (solar panels). Any emissions associated with the current distribution of electricity to the site (associated with power generation used to supply electricity via the overhead distribution lines) would be eliminated. Therefore, the Project would result in a less-than-significant cumulative increase of nonattainment criteria pollutants and no mitigation is necessary.

c. Expose sensitive receptors to substantial pollutant concentrations?

Impact Determination. Less than significant.

As the surrounding area is undeveloped, with the nearest town over 2 miles away, there are no sensitive receptors, such as schools or hospitals, in the vicinity of the Project, aside from the seasonally occupied on-site accommodations at Whitaker's Forest Research Station. The cabins are occupied only during the summer months.

As currently planned, Project construction is anticipated to begin as early as fall of 2022 and last for 3 months. Under this current timeline, construction will occur during the off-season while the residences are generally not occupied, and there will be no exposure of sensitive receptors to any construction emissions. However, in the event that UC Berkeley staff or visitors occupying the residences are present during construction, the visitors would not be exposed to substantial pollutant concentrations based on their distance from the construction site (approximately 200 feet) and, especially, because of the limited quantity of equipment involved with construction of the SPS and the associated very minor release of criteria pollutants and diesel fumes. Therefore, impacts would be less than significant.

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

Impact Determination. Less than significant.

The use of diesel equipment during Project construction may result in objectionable odors. However, Project construction will be short-term, intermittent, and occur in a rural, remote location, some 200 feet distant from the on-site residences. As such, odors, if any, would likely be imperceptible to any visitor on-site. Given the temporary nature and small scale of construction and considering the minimal number of people potentially impacted by the odors, the Project would have a less-than-significant impact.

3.3 Biological Resources

Would the project:

Environmental Issues	Impact Determination
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 Wildlife or U.S. Fish and Wildlife Service?	Less Than Significant With Mitigation Incorporated
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 Wildlife or U.S. Fish and Wildlife Service?	Less-Than-Significant Impact
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?	No Impact
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

3.3.1 Setting

The Project is located within the 350-acre UC Berkeley Whitaker's Forest in the central Sierra Nevada mountain range at an elevation of 5,386 feet above mean sea level. Whitaker's Forest is entirely within the Redwood Mountain Grove of giant sequoia, one of the giant sequoia groves identified by the National Park Service within Sequoia and Kings Canyon National Parks.

The vegetation surrounding the Project site is classified as a Giant Sequoia Forest Sensitive Natural Community, as identified by the California Department of Fish and Wildlife (2022). However, the Project site, including the 0.13-acre work area and 0.12-acre staging area, is located within a previously cleared open area and is vegetated by a sparse cover of annual and perennial grasses and forbs. The site has only a few trees and shrubs, and vegetation removal is anticipated to be limited to a few small Jeffrey pines (less than 6 inches diameter) and shrubs (including manzanita) adjacent to Forest Service Road 14S75. The Project site is subject to regular ongoing

foot traffic and minimal vehicle traffic. The nearest waterbody is Eshom Creek, which flows southwest and is approximately 200 feet downhill from the northern border of the Project site and approximately 800 feet from the western border of the Project.

The nearest waterbody is Eshom Creek, which flows southwest and is approximately 200 feet downhill from the northern border of the Project site and approximately 800 feet from the western border of the Project.

A Biological Constraints Report was prepared by PG&E for the Project in December of 2021 to evaluate the special-status wildlife and plant species with the potential to be present in the area. That report, combined with additional background information about the Project site, helped inform the selection of the current site for the SPS from among three potential nearby options. The Biological Constraints Report included a review of special-status species records from California Department of Fish and Wildlife's California Natural Diversity Database (CNDDDB) and Forest Service Natural Resource Information Systems (NRIS) within a 5-mile radius around the Project. The review identified occurrences of ten special-status wildlife species and four special-status plant species. The impact discussion and conclusions below reflect the results of this prior research and evaluation.

3.3.2 Discussion

- 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 Wildlife or U.S. Fish and Wildlife Service?**

Impact Determination. Less than significant with mitigation incorporated.

A review of the CNDDDB and NRIS data identified ten special-status wildlife species and four special-status plant species within a 5-mile radius around the Project.

These species and their potential for occurrence are summarized in Table 3–1.

Table 3–1. Special-status Species within 5 Miles of the Project

Special-Status Species	Rating	CNDDB Records	NRIS Records	Suitable Habitat	Potential to Occur	Potential Impact
Wildlife						
California spotted owl (<i>Strix occidentalis occidentalis</i>)	SSC = California Department of Fish and Wildlife Species of Special Concern	Yes	Yes	Yes	Yes	Less than Significant with Mitigation
Fisher – Southern Sierra Nevada ESU (<i>Pekania pennanti</i> population 2)	FE = Federally Endangered ST = State Threatened SSC = California Department of Fish and Wildlife Species of Special Concern	Yes	Yes	Yes	Yes	Less than Significant with Mitigation
Great gray owl (<i>Strix nebulosa</i>)	SE = State Endangered	No	Yes	No	No	No Impact
Northern goshawk (<i>Accipiter gentilis</i>)	SSC = California Department of Fish and Wildlife Species of Special Concern	Yes	Yes	Yes	Yes	Less than Significant with Mitigation
Olive-sided flycatcher (<i>Contopus cooperi</i>)	SSC = California Department of Fish and Wildlife Species of Special Concern	No	Yes	Yes	Yes	Less than Significant with Mitigation
Peregrine falcon (<i>Falco peregrinus</i>)	FP = Fully Protected	No	Yes	Yes	Yes	Less than Significant with Mitigation

Special-Status Species	Rating	CNDDB Records	NRIS Records	Suitable Habitat	Potential to Occur	Potential Impact
Sierra Nevada mountain beaver (<i>Aplodontia rufa californica</i>)	SSC = California Department of Fish and Wildlife Species of Special Concern	Yes	No	No	No	No Impact
Southern mountain yellow-legged frog (<i>Rana mucosa</i>)	FE = Federally Endangered SE = State Endangered	Yes	No	No	No	No Impact
Spotted bat (<i>Euderma maculatum</i>)	SSC = California Department of Fish and Wildlife Species of Special Concern	Yes	No	Yes	Yes	No Impact
Wolverine (<i>Gulo gulo</i>)	ST = State Threatened FP = Fully Protected	Yes	No	Yes	No	No Impact
Plants						
Copper-flowered bird's foot trefoil (<i>Hosackia oblongifolia</i> var. <i>cuprea</i>)	CRPR 1B.3 = California Native Plant Society California Rare Plant Rank	Yes	No	No	No	No Impact
Field ivesia (<i>Ivesia campestris</i>)	CRPR 1B.2 = California Native Plant Society California Rare Plant Rank	Yes	No	No	No	No Impact
Grey-leaved violet (<i>Viola pinetorum</i> ssp. <i>grisea</i>)	CRPR 1B.2 = California Native Plant Society California Rare Plant Rank	Yes	No	No	No	No Impact
Pygmy pussypaws (<i>Calyptridium pygmaeum</i>)	CRPR 1B.2 = California Native Plant Society California Rare Plant Rank	Yes	No	No	No	No Impact

The following section provides additional information about each of these species, including their habitat requirements and potential for Project impacts. In addition to the special-status species listed in Table 3–1 and discussed below, migratory birds and raptors have the potential to nest within or adjacent to the Project site. The occupied nests and eggs of these birds are protected by federal and state laws, including the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5. Project noise involving equipment operation that occurs during the breeding season could disturb nesting migratory birds and raptors if an active nest were located near these activities. Any disturbance that caused migratory bird or raptor nest abandonment and subsequent loss of eggs or developing young at active nests located at or near the Project site would violate California Fish and Game Code Sections 3503 or 3503.5 and the Migratory Bird Treaty Act. This would be avoided through implementation of Mitigation Measure BIO-1, which requires that the Project attempt to avoid the avian nesting season, which typically extends from February 15 to August 31 (this encompasses the nesting season for the special-status bird species with potential nesting habitat within or immediately adjacent to the Project site including California spotted owl, northern goshawk, and olive-sided flycatcher). If construction during this season cannot be avoided, then nesting bird surveys would be completed, and any nests found would be protected.

Species With Suitable Habitat and the Potential to Occur Within and Around the Project Site

- **California spotted owl:** There are 25 CNDDDB records of spotted owl nests and 17 records of activity centers within 5 miles of the Project. In addition, the NRIS includes 185 observations of this species dating from 1938 to 2021 within 5 miles of the Project; 12 records are within 1 mile of the Project. Observations of this species are distributed throughout the forested area surrounding the Project site.

This species is found in mature coniferous and mixed hardwood forests that contain old trees and snags with high basal areas and in forests with dense canopies, multiple canopy layers, and downed woody debris. Nests are often located in tree cavities or on broken-topped trees or snags in trees with a 40-inch or greater diameter at breast height. There is suitable nesting and foraging habitat for this species in the forested areas surrounding the Project site. Noise from construction could disturb this species during its nesting season. To avoid this potential impact, Mitigation Measure BIO-2 requires that a qualified biologist be consulted if work is to be performed during California spotted owl nesting season (March 1 to August 15); provides that modified 1-year call back surveys will be conducted within 0.25 mile of suitable nesting habitat; and provides instructions if an active spotted owl nest is discovered during surveys. This measure will prevent impacts to this species from the Project.

- **Fisher:** There are 19 CNDDDB occurrences for this species within 5 miles of the Project. There are also eight NRIS records for this species from 1999 to 2018 within 5 miles of the Project; nine records are within 2.0 miles of the Project. Observations of this species are distributed throughout the forested areas surrounding the Project site. Suitable habitat for this species includes dense, mature mixed conifer and ponderosa pine forests at elevations that support the greatest above-ground forest biomass (many large trees); logs and snags for resting and denning; and areas that do not accumulate as much deep and persistent snow as higher elevations.

The majority of Whitaker's Forest Research Station falls within moderately suitable denning habitat as mapped by the post-drought fisher reproductive habitat suitability model (Thompson et al. 2021), with the surrounding area mapped as high suitability habitat. Additional fine-scale aerial imagery analysis indicates the proposed location of the SPS is a relatively open area adjacent to existing buildings. Due to the lack of dense, multi-layered canopy cover, the lack of an abundance of dead and downed wood, and the proximity to existing intermittent human disturbance, it is unlikely that the Project site would support fisher denning or resting activities. However, suitable denning habitat is present within 0.25 mile of the Project site, and it is possible that fisher could use the Project site for foraging.

Construction noise from the Project could disturb denning fisher in the area, and construction vehicles could cause fisher mortality. Mitigation Measure BIO-3 provides measures intended to prevent impacts to fisher, including a limited operating period (July 1 to February 28), a low vehicle speed limit, and a requirement to contact the qualified biologist if a fisher is observed within the general area of the Project site. Through implementation of Mitigation Measure BIO-3, the Project will avoid impacts to fisher.

- **Northern goshawk:** There are two historical CNDDDB records for active nests of this species near the Project, from 1968 and 1980. In addition, there are three NRIS records of this species, from 1998 (pair visually observed), 2010 (fledglings detected), and 2013 (pair visually observed), near the Project (within 3 miles). Suitable nesting habitat for this species includes mature, dense, closed-canopy forests. Surrounding forests contain suitable nesting habitat; however, the Project site is within a disturbed clearing that does not provide suitable nesting habitat. Noise from Project construction during the nesting season (April 1 to August 15) could disturb pairs of this species nesting near the Project site. Mitigation Measure BIO-1 recommends that construction occur outside of the nesting bird season and requires that the qualified biologist be consulted regarding nesting bird surveys if construction occurs during the nesting bird season. If active nests

are found during surveys, the Project biologist will establish avoidance buffers under Mitigation Measure BIO-1 to prevent the Project from disturbing bird nesting activities. With the implementation of Mitigation Measure BIO-1, impacts to this species would be avoided.

- **Olive-sided flycatcher:** There are two aural NRIS observations of this species from 2018 (3.2 miles from the Project) and 2019 (4.9 miles from the Project). This species inhabits semi-open and dense conifer forests, often near edges and openings. The Project site contains potential foraging habitat, and surrounding forested areas represent potential nesting habitat. Noise from Project construction during the nesting season (May 1 to August 15) could disturb pairs of this species nesting near the Project site. Mitigation Measure BIO-1 recommends that construction occur outside of the nesting bird season; if this is not feasible, nesting bird surveys and protection of active nests are required. With the implementation of this measure, significant impacts to this species would be avoided.
- **Peregrine falcon:** The NRIS includes 21 records of this species within a 5-mile radius of the Project, dating from 2006 to 2019. This species nests on cliff faces, tall buildings, bridges, and other high locations near open habitats. The Project site may contain potential foraging habitat; however, the species would likely avoid areas with human activity. No suitable nesting habitat is present within 0.5 mile of the Project site. Therefore, the Project would not result in impacts to foraging or nesting peregrine falcon.
- **Spotted bat:** There is one historical CNDDB occurrence of this species from 1975, mapped 2.5 miles northwest of the Project. Habitats occupied by this species include arid deserts, grasslands, and mixed conifer forests, and it roosts in rock crevices. The Project site may provide foraging habitat for this species. However, construction activities are not expected to disturb foraging bat species, as Project activities would not be conducted during dusk or dark when bats would be actively foraging. Therefore, the Project would have no impacts to bats.

Species With Suitable Habitat Within and Around the Project Site That are Not Likely to Occur

- **Wolverine:** There are two historical CNDDB occurrences of this species, one located 2.7 miles from the Project site (1988) and one located 3.6 miles from the Project site (1965). This species inhabits mixed conifer forests and likely uses subalpine conifer, alpine dwarf-shrub, wet meadow, and riparian habitats. However, wolverines are extremely rare in California, and there are currently no known breeding populations in the state. The Project would not affect this species.

Species With No Suitable Habitat Within or Around the Project Site

- **Copper-flowered bird's foot trefoil:** There are two CNDDDB occurrences for this species within 5 miles of the Project. However, the Project site lacks suitable habitat for this species, which occurs in wetlands and riparian habitats.
- **Field ivesia:** Although there is a 1984 CNDDDB occurrence for this species 2.5 miles from the Project, no suitable habitat (i.e., moist meadows and slopes in montane to subalpine conifer woodlands) is present.
- **Grey-leaved violet:** There is one historical CNDDDB occurrence of this species from 1945 approximately 5 miles from the Project. Forested areas surrounding the Project site contain suitable habitat for this species, which is found in red fir forest, lodgepole pine forest, and subalpine forest communities. However, the Project site, including the construction and laydown areas, has previously been cleared of vegetation and is subject to ongoing human disturbance. Therefore, this species is unlikely to occur within the Project site, and the Project would not result in impacts to this species.
- **Pygmy pussypaws:** There is one historical CNDDDB occurrence of this species, from 1970, 5 miles from the Project. The plants were growing in sandy soil under lodgepole pines. This species is found in dry and, less often, moist, sandy, or gravelly soils within upper montane and subalpine coniferous forests. The Project site is surrounded by upland coniferous forest that may provide habitat for this species. However, the Project site, including the construction and laydown areas, has previously been cleared of vegetation and is subject to ongoing human disturbance. Therefore, this species is unlikely to occur within the Project site, and the Project would not affect this species.
- **Great gray owl:** There are numerous NRIS records for this species approximately 3 to 4 miles from the Project site. However, this species is unlikely to occur within the Project site, as the Project site lacks suitable habitat, which consists of mixed conifer forests near meadows and open areas that are 10 acres or larger.
- **Sierra Nevada mountain beaver:** There is one CNDDDB occurrence of this species from 1966, 4.0 miles west of the site. This species inhabits moist forests near watercourses with dense vegetation and damp soils, and it burrows in networks of tunnels along stream banks. No suitable habitat is present.

- **Southern mountain yellow-legged frog:** There are CNDDDB occurrences for this species 3.7 miles (1953), 3 miles (1941), and 1.8 miles (1941) from the site. This species lives in creeks and streams that maintain water seasonally or perennially and is usually encountered within a few feet of water. The Project site is 200 feet from the nearest mapped waterway and thus does not provide suitable habitat for this species.

The construction BMPs and field protocols identified in Section 2.5.4 include practices that support protection of special-status species, including a worker environmental awareness training. However, the Project could still potentially affect special-status species. Potential impacts would be avoided and minimized by implementation of Mitigation Measure BIO-1, BIO-2, and BIO-3, described below.

Mitigation Measure: BIO-1 Nesting Birds

If feasible, work should be scheduled between September 1 and February 14 to avoid the bird nesting season. If this is not possible and vegetation removal or construction activities are necessary during the bird nesting season, surveys will be conducted by a qualified biologist within 10 days prior to the beginning of work.

- If no active nests are identified during the surveys, no work buffers and/or further Project modifications are required.
- If a lapse in Project activities for 10 days or longer occurs, another nesting bird survey will be performed prior to re-initiation of work.
- Surveys would include a 300-foot buffer surrounding the Project area.
- If active nests are identified during the surveys, the qualified biologist shall establish an appropriate avoidance buffer around the nest in which no work will be allowed until the young have successfully fledged or the nest has been abandoned. Buffers shall be a minimum of 50 feet for passerines and 300 feet for non-special-status raptors. The size of the avoidance buffer shall be determined by a qualified biologist and shall depend on the status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise, and other disturbances. Buffers may be increased or decreased at the discretion of the biologist, as appropriate, to ensure that the Project does not cause nest disturbance. Active nest sites shall be monitored periodically throughout the nesting season to identify any sign of disturbance.

Mitigation Measure: BIO-2 California Spotted Owl

If work must occur during the California spotted owl nesting season (March 1 to August 15), modified one-year call back surveys will be conducted.

- Nocturnal calling surveys would be completed by a qualified biologist within a 0.25-mile buffer surrounding the Project area to determine if nesting California spotted owls are present.
- Broadcast (calling) stations would be established in locations that allow for complete coverage of the Project area and surrounding 0.25-mile buffer.
- Surveys would be completed on four separate nights, each at least 7 days apart, with the final survey occurring within 10 days prior to the initiation of Project activities.
- If a spotted owl is detected during nocturnal survey, a daytime follow-up visit to determine nest sites will be conducted by searching for pellets, whitewash and molted feathers with limited broadcast calling. If an active nest site is identified, no further surveys will be conducted and the biologist shall establish an avoidance buffer of a minimum of 1,320 feet around the nest in which no work will be allowed until the young have successfully fledged or the nest has been abandoned.
- If no active California spotted owl nests are identified during the call back surveys, no work buffers and/or further Project modifications are required.

Mitigation Measure: BIO-3 Fisher

The following actions will be implemented to avoid and minimize any impacts to fisher:

- All vegetation removal and construction activities will be scheduled between July 1 and February 28 to avoid the fisher denning season.
- During construction, if a fisher is observed near a work area, work will cease immediately and a qualified biologist contacted for guidance. The biologist will conduct a survey and prescribe additional measures as needed to prevent take of the individual. Additional measures may include monitoring by a qualified biologist, delay of work, or modification of work activities. California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) will be contacted prior to work for approval of any work that may result in take.
- Fisher identification, life history, and avoidance and minimization measures will be included in the worker environmental awareness training.

- During construction, the speed limit on low-volume traffic forest roads will be minimal in potential denning habitat. Speeds should be slow enough to minimize vehicle-caused mortality.
- Rodenticides will not be used.

With the implementation of these mitigation measures and the PG&E field protocols and BMPs identified in Section 2.5, Project implementation would not substantially affect any special-status species with the potential to occur in the Project site. Therefore, potential effects on special-status species would be less than significant with mitigation.

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 Wildlife or U.S. Fish and Wildlife Service?

Impact Determination. Less than significant.

The vegetation surrounding the Project site is classified as a Giant Sequoia Forest Sensitive Natural Community. However, the Project site is within a previously cleared open area vegetated by a sparse cover of annual and perennial grasses and forbs. The area is largely devoid of trees and shrubs and is subject to regular ongoing foot traffic and some vehicle traffic, as indicated by vehicle tread marks visible in the soil. Vegetation removal is anticipated to be limited to a few small Jeffrey pines (less than 6 inches in diameter) and shrubs (including manzanita) adjacent to Forest Service Road 14S75. Therefore, the Project would not require any removal of giant sequoias. There are no riparian areas or other protected habitats or communities in the Project site.

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?

Impact Determination. No impact.

There are no state or federally protected wetlands near the Project site, and no ground-disturbing work will occur within or near wetlands as part of the Project.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact Determination. No impact.

The Project site has previously been disturbed by building construction and experiences intermittent human activity. In addition, the Project will be constructed in

a relatively small area (less than 0.5 acre of land). Therefore, the Project site does not function as a wildlife corridor. The Project site may provide habitat for nesting birds, and the noise from construction activities could disturb nesting birds during the nesting bird season. Mitigation Measures BIO-1 and BIO-2 recommend scheduling work between September 1 and February 14 to avoid the nesting bird season and require surveys for active bird nests if work is performed during the nesting bird season. These measures will prevent the Project from impeding the use of native wildlife nursery sites.

The Project would not impact the movement of native resident or migratory species. With the implementation of Mitigation Measures BIO-1 and BIO-2, the Project will not impede the use of native wildlife nursery sites.

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

Impact Determination. No impact.

The Project site and all activities would take place within Whitaker's Forest. The Project does not involve the removal of any large (greater than 6 inches in diameter) trees, though a larger unidentified conifer (genus *Pinus*) northeast of the location for the proposed SPS could be removed or pruned following CALFIRE's inspection of the facility. Moreover, the Project involves minimal grading and is distant from all waterbodies. The Project does not conflict with any applicable local policies or ordinances protecting biological resources.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact Determination. No impact.

There is no adopted habitat conservation plan or natural community conservation plan that applies to Whitaker's Forest, and the Project would not conflict with the provisions of any other approved habitat conservation plan. Therefore, the Project would have no impact.

3.4 Cultural Resources

Would the project:

Environmental Issues	Impact Determination
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Less Than Significant With Mitigation Incorporated
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less Than Significant With Mitigation Incorporated
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	Less-Than-Significant Impact

3.4.1 Setting

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources [CRHR]), it generally must be 50 years or older. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, historic districts, and areas of traditional cultural significance to tribal groups.

To identify historical resources at the Project site, a desktop cultural resources study was completed and reviewed by PG&E Cultural Resources Specialist Matthew Armstrong (Dougherty 2021). The study consisted of the following tasks: (1) a review of PG&E's Confidential Cultural Resources Database, which includes cultural resource records and studies on file with the California Historical Resources Information System; (2) a review of historical maps and aerial photography; and (3) a review of geologic and soils data to assess the potential for buried precontact archaeological deposits.

The cultural resources study identified a previously recorded resource—Whitaker Camp—that includes the Project site. Whitaker Camp—assigned the designation P-54-003591 by the California Historical Resources Information System—includes evidence of precontact and historic-period use. As described in the Department of Parks and Recreation Primary Record for P-54-003591, “This site was originally occupied by Native Americans. In 1872, ‘Hyde’ Mill was constructed on this site. The mill operated until approximately 1875 when it was moved to a new location. In 1927 the area was established as a 4H Camp. This camp was continuously used and built on to until 1961 when it was torn down by the University of California.”

Physical remains associated with P-54-003591 that are near the Project footprint consist of a circa 1920 to 1930 two-by-four framed “4H camp barn” that is approximately 20 feet from the work area and the grave of Horace Whitaker (1830 to 1910), which is approximately 100 feet from the staging and work areas. Other resources associated with P-54-003591—but not near the Project footprint—include a Native American milling station and flaked stone scatter and two historic-period graves. The graves are for

Ernest Burch, who died in 1876 of an unknown disease, and Robert Gilmore, who was killed on-site during an accident at the mill in 1873.

A cultural resources survey was conducted at the Project site (Redmond and Timm 2021). This survey involved an archaeologist walking transects spaced approximately 16 feet wide across the Project site to identify cultural materials. No surface cultural materials were identified.

Although the recent cultural resources survey completed for the Project did not identify surface cultural materials, the potential presence of buried historic-period cultural resources cannot be ruled out. In particular, remains associated with the circa 1872 to 1875 Hyde Mill could be present. In contrast, there is less of a likelihood of encountering buried precontact resources as the geologic and soils data indicate pre-Quaternary soils predating Native American habitation of the area underlie the Project site. (However, the potential for Native American graves cannot be ruled out; see discussion “c” under Section 3.4.2 below.)

3.4.2 Discussion

a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Impact Determination: Less than significant with mitigation.

As noted in the discussion above, the Project site is within the recorded boundary of a cultural resource that contains precontact and historic-period architectural and archaeological remains. This resource, P-54-003591, has not been formally evaluated for listing in the CRHR or other local or federal registers of historical resources. For purposes of this Project, however, P-54-003591 is assumed to be eligible for listing in the CRHR and is, therefore, a historical resource per CEQA (CEQA Guidelines Section 15064.5(a)).

The closest recorded features associated with P-54-003591 to the Project site are the 4H camp barn and Horace Whitaker's grave. Neither of these features are within areas where Project excavation would occur for the concrete foundation, driveway, security fence, and underground conduit. Construction of the Project would not introduce visual elements that would result in a significant impact on either of these features' historical settings as existing modern infrastructure is present on-site. Vegetation removal would not fell trees or limbs onto the barn or Whitaker's grave. Whitaker's grave, however, is near the area where Project staging would occur, and there is a remote possibility that the grave could be inadvertently damaged from vehicles or equipment parking at or accessing the staging area.

Although there are no known archaeological features at the locations of the proposed concrete pad, security fence, and conduit, the presence of buried historic-period archaeological materials cannot be ruled out. Buried intact remains associated with the Hyde Mill would qualify as historical resources under CEQA, and a substantial adverse change in their significance would occur from their demolition, destruction, relocation, or alteration such that their significance would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)).

The Project would have a potentially significant impact on historical resource P-54-003591 unless mitigation described under Mitigation Measures CUL-1, CUL-2, and CUL-3 are incorporated. Implementation of these three mitigation measures would reduce potential impacts to P-54-003591 to less than significant by preserving important information from the site through protection, recordation, and recovery; flagging and monitoring of sensitive locations; and educating construction personnel on the appropriate procedures to be implemented if archaeological historical resources are encountered.

Mitigation Measure: CUL-1 Monitor Project Ground Disturbance

A qualified field archaeologist shall monitor Project ground disturbance in areas that extend into previously undisturbed soils. The field archaeologist shall also implement Mitigation Measures CUL-2 and CUL-3. The field archaeologist shall report to a supervising archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for archaeology. Monitoring shall continue until ground disturbance activities are completed. If the field archaeologist finds that there is a low potential for intact subsurface archaeological deposits (e.g., if the soils are discovered to be previously disturbed) and recommends concluding monitoring or changing the frequency of monitoring prior to the conclusion of ground-disturbing activities, PG&E must be consulted, and UC Berkeley must confirm approval of the change. If UC Berkeley does not respond within 72 hours of the notification that shall be taken as concurrence with the decision to change or conclude monitoring.

Should an archaeological deposit be encountered during subsurface construction, all ground-disturbing activities within 100 feet shall cease and the field archaeologist shall assess the deposit and consult with UC Berkeley and PG&E as appropriate. With input from the PG&E field archaeologist and UC Berkeley, a PG&E Cultural Resources Specialist shall make recommendations to UC Berkeley regarding the eligibility of the deposit for inclusion on the CRHR. UC Berkeley must provide a determination of eligibility within one week of the recommendation being made.

If UC Berkeley determines that the deposit is eligible for listing in the CRHR, or constitutes a unique archaeological resource per CEQA, preservation in place of any significant discovery shall be the preferred manner of avoiding impacts (CEQA Guidelines Section 15126.4(b)(3)) and may involve relocating and/or redesigning the Project to avoid the resource if such a relocation or redesign is feasible. If preservation in place is infeasible, UC Berkeley shall determine appropriate mitigation measures in consultation with PG&E which may include but would not be limited to recording the archaeological deposit, data recovery and analysis, and outreach to cultural resource stakeholders.

Upon completion of Project monitoring, the field archaeologist shall prepare a written report documenting methods and findings. The field archaeologist shall submit a draft of the report to UC Berkeley and PG&E's Cultural Resources Specialist for review and submit a final report after receiving input from UC Berkeley and PG&E. The archaeologist shall also submit the final monitoring report to the Southern San Joaquin Valley Information Center at California State University at Bakersfield.

Mitigation Measure: CUL-2 Resource Awareness Training

Prior to Project ground disturbance, all construction contractor(s) responsible for overseeing and operating ground-disturbing equipment shall be alerted to the sensitivity of the Project site for buried archaeological deposits. The field archaeologist shall conduct an on-site "tailboard presentation" to construction contractors to alert relevant construction personnel of the appropriate procedures that should be undertaken if archaeological deposits or human remains are encountered during construction.

Mitigation Measure: CUL-3 Flag Horace Whitaker Gravesite

Prior to Project ground disturbance, the field archaeologist shall flag the grave of Horace Whitaker for visibility. The flagging shall be maintained for the duration of Project construction. No Project activities shall occur within 25 feet of the grave to prevent inadvertent damage to the gravesite.

g. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Impact Determination. Less than significant with mitigation.

According to the CEQA Guidelines, "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource" (CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California Public Resources Code Section 21083.2). Archaeological deposits identified during Project construction would be

treated by UC Berkeley and PG&E—in consultation with a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology—in accordance with Mitigation Measure CUL-1. With implementation of this mitigation measure, the Project's potential impacts to archaeological resources would be less than significant.

h. Disturb any human remains, including those interred outside of dedicated cemeteries?

Impact Determination. Less than significant.

There are no known human remains within the Project site, although three historic-period grave sites are documented within historical resource P-54-003591. One of these graves—due to its proximity to the Project—would be flagged and monitored for avoidance (see Mitigation Measure CUL-3).

No Native American precontact grave locations are known to occur within the Project site. In addition, and as stated above, pre-Quaternary soils predating Native American habitation of the area underlie the Project site and therefore there is low likelihood of encountering buried precontact resources. However, Native American use of the area is well documented and precontact cultural materials have been reported in the vicinity. As a result, the presence of Native American human remains at the Project site, while extremely unlikely, cannot be discounted.

If human remains are identified during Project construction, these remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code, as appropriate.

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendent to inspect the site, and the Most Likely Descendent shall recommend the proper treatment of the remains and associated grave goods.

Section 5097.98 of the Public Resources Code states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons (i.e., the Most Likely Descendent) it believes to be descended from the deceased. With permission of the landowner or a designated representative, the Most Likely Descendent may inspect the remains and any associated cultural materials and

make recommendations for treatment or disposition of the remains and associated grave goods. The Most Likely Descendent shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

With these regulations in place, a less-than-significant impact on human remains is anticipated, and no additional mitigation is necessary.

3.5 Energy

Would the project:

Environmental Issues	Impact Determination
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less-Than-Significant Impact
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

3.5.1 Setting

The Project site has several residential structures including one large, three-bedroom house, and two one-room cabins. Currently, only the larger three-bedroom house is in use and is utilized mostly in the summer months. Electricity to the residential structures is provided by PG&E overhead distribution lines.

This Project is part of PG&E's Remote Grids Pilot Program, a part of PG&E's Community Wildfire Safety Program and would install a new SPS. Once installed, the SPS is expected to provide the residential structures at Whitaker's Forest Research Station with a consistent, clean, and reliable source of electricity. The SPS will run independently from the larger electric grid system and will use a combination of solar power and battery storage to provide a continuous source of power year-round, replacing the need for UC Berkeley to rely on the existing PG&E overhead distribution lines for electricity.

3.5.2 Discussion

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

Impact Determination. Less than significant.

The Project would not result in any unusual characteristics that could cause excessive long-term operational fuel consumption. Project construction consists of the installation of the SPS and related activities. During this construction phase, there will be a short-term increase in fossil fuel use due to operation of construction equipment and vehicle traffic to and from the site. Project maintenance consists of one to four site visits per year to ensure the SPS is properly functioning and to perform any necessary vegetation management. Similar to construction, maintenance activities will require fossil fuel use for vehicle trips, and some vegetation management equipment may be gasoline powered (e.g., a chainsaw). Operation of the Project would require no additional energy consumption. Once the

Project is completed, the residences at Whitaker's Forest Research Station will be powered by clean solar energy generated on-site instead of via PG&E's electrical grid. Therefore, the Project would not result in inefficient, wasteful, or unnecessary energy consumption. Impacts would be less than significant, and no mitigation measures are required.

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

Impact Determination. No impact.

The State of California's Renewables Portfolio Standard Program, most recently updated by Senate Bill 100, requires that PG&E and other retail electricity sellers procure 60% of total electricity sales from renewable energy sources by 2030 and that by 2045 all electricity come from carbon-free sources (California Public Utilities Commission 2021a). Per the 2021 Renewables Portfolio Standard Annual Report, PG&E procured 35% of its electricity from renewable sources in 2020. PG&E is exceeding the 2020 standard of 33% and on track to meet the 2030 60% renewables standard (California Public Utilities Commission 2021b). This Project will transition the Whitaker's Forest Research Station residences from dependence on PG&E's larger electric grid system, which as of 2020 consisted of 35% renewable sources, to a 100% renewable energy source (solar and battery power). While the residences have minimal energy needs and the transition to an SPS will make a negligible difference in PG&E's energy portfolio, this Project is consistent with the future requirements of the Renewables Portfolio Standard Program.

The Tulare County General Plan Environmental Resource Management policy ERM-4.6 states that "The County shall support efforts, when appropriately sited, for the development and use of alternative energy resources, including renewable energy such as wind, solar, bio-fuels and co-generation" (Tulare County 2012). As the Project is an SPS installation, consisting of solar panels, this Project is consistent with the above General Plan policy.

The Project is consistent with and does not obstruct state and local plans for renewable energy or energy efficiency and, therefore, no impact would occur.

3.6 Geology and Soils

Would the project:

Environmental Issues	Impact Determination
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii. Strong seismic ground shaking? iii. Seismic-related ground failure, including liquefaction? iv. Landslides? 	No Impact No Impact No Impact No Impact
b. Result in substantial soil erosion or the loss of topsoil?	Less-Than-Significant Impact
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No Impact
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

3.6.1 Setting

The Project site is located on the western slope of the Sierra Nevada mountain range. Topography at the proposed standalone power system and associated staging area is relatively flat, with slopes of less than 5%. Areas of steep canyon terrain occur within the greater Project vicinity. Soils in the Project site are predominantly comprised of the Tharpslog series, which are deep, somewhat excessively drained soils formed in colluvium and slope alluvium over residuum derived from weathered granite. The texture of this series is gravelly loamy sand, which has a soil erodibility (K) factor of approximately 0.20, and has low-to-moderate susceptibility to erosion due to low runoff potential (Natural Resources Conservation Service 2022). The Project is not located in an area with swelling clays (Olive et al. 1989).

There are no delineated Alquist-Priolo Earthquake Fault Zones within the immediate vicinity of the Project (CGS 2021). The nearest known active fault is the Kern Canyon Fault, which is located approximately 30 miles southeast of the Project location. The Kern Canyon Fault is a northeast-southwest trending fault that extends from the mouth of the Kern River Canyon, through Lake Isabella and Kernville, through Sequoia National Park, terminating near Harrison Pass, approximately 32 miles east of the community of Three Rivers. Recent U.S. Army Corps of Engineers field studies determined that the Kern Canyon Fault is active and capable of producing a 7.5-magnitude earthquake. The last movement on the Kern Canyon Fault appears to have occurred during the past 2,500 to 4,000 years, with an average interval between large earthquakes of about 3,200 years (Kelson et al. 2010). Despite the proximity to the Kern Canyon Fault, the Project vicinity is characterized as having very low earthquake shaking potential per the CGS's analysis of Earthquake Shaking Potential for California (CGS 2016). No known seismic hazards, including landslides and liquefaction, are located within the Project vicinity (CGS 2019).

3.6.2 Discussion

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Impact Determination. No impact.

The Project is not located within an Alquist-Priolo Earthquake Fault Zone. Therefore, the Project will have no impact.

- ii. Strong seismic ground shaking?**

Impact Determination. No impact.

As discussed in the Setting Section 3.6.1 above, the Project is located in an area classified as having low earthquake shaking potential. Therefore, the Project will have no impact.

- iii. Seismic-related ground failure, including liquefaction?**

Impact Determination. No impact.

As discussed in the Setting Section 3.6.1 above, the Project is not located in an area where seismic hazards, including liquefaction, are known to occur. Therefore, the Project will have no impact.

iv. Landslides?

Impact Determination. No impact.

As discussed in the Setting Section 3.6.1 above, the Project is not located in an area where seismic hazards, including landslides, are known to occur. Construction activities, such as grading and tree removal, have the potential to cause soil instability on steep slopes, which can lead to slope failure; however, ground-disturbing activities are limited to relatively flat areas with slopes of less than 5% in which a landslide would not occur. Therefore, the Project will have no impact.

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

Impact Determination. Less than significant.

While ground-disturbing construction activities, such as grading, trenching, and tree removal, can exacerbate soil erosion, the total ground disturbance is minimal and would not result in substantial soil erosion or the loss of topsoil. In addition, the Project will implement a site-specific SWPPP document that includes BMPs to prevent substantial erosion and sedimentation. Therefore, the Project will have a less-than-significant impact on substantial soil erosion or topsoil loss.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Impact Determination. No impact.

The soil characteristics combined with the relatively flat topography of the Project location would not cause any instability that may result in landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, the Project will have no impact.

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?

Impact Determination. No impact.

Soil within and around the Project site is predominantly coarse-grained, and would not be considered an expansive soil as defined by Table 18-1-B of the Uniform Building Code. Therefore, the Project will have 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?**

Impact Determination. No impact.

Existing facilities at Whitaker's Forest Research Station currently utilize a septic tank for wastewater disposal, which is adequately supported by the soils in the Project area. The Project does not include any proposed additional waste water disposal systems, nor does it involve modifications to the existing waste water disposal system. Prior to construction, PG&E will conduct a survey to identify the location of existing underground infrastructure, including waste water infrastructure, to ensure that the septic system is not breached during construction activities. Therefore, the Project will have no impact.

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

Impact Determination. No impact.

Geological features within the overall Project vicinity consist of sloping hills, ravines, and canyons, which are typical of the western slope of the Sierra Nevada mountains. No unique rock formations, such as cliffs, peaks, escarpments, or tors, are located within or near the Project site and therefore the minor ground disturbance associated with installation of the SPS and driveway is not anticipated to destroy any paleontological resources and would not impact any unique geological features. Therefore, the Project will have no impact.

3.7 Greenhouse Gas Emissions

Would the project:

Environmental Issues	Impact Determination
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less-Than-Significant Impact
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

3.7.1 Setting

Greenhouse gases are compounds, such as carbon dioxide (CO₂) and methane (CH₄), that have varying global warming potential and atmospheric lifetimes. Increased concentrations of greenhouse gases in the atmosphere attribute to global temperature increases and climate change.

California has developed several regulations and goals to reduce greenhouse gas (GHG) emissions within the State. These include:

- Executive Order S-03-05 was signed on June 1, 2005, and established the following GHG emission reduction targets: 1) reduce emissions to 1990 levels by 2020, and 2) reduce emissions to 80% below 1990 levels by 2050.
- Assembly Bill 32, the Global Warming Solutions Act, was signed August 31, 2006, and requires the state to reduce its GHG emissions to 1990 levels by 2020 as directed by EO S-03-05. AB 32 includes requirements to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions and directs the California Air Resources Board to develop a plan showing how the reductions were going to be achieved. To meet this requirement, California Air Resources Board developed the Climate Change Scoping Plan, which must be updated every five years. The Climate Change Scoping Plan presents key GHG reduction strategies and measures, such as increased generation of renewable electricity, needed to reach the GHG emissions reductions targets.
- Executive Order B-30-15 was signed April 29, 2015, and established the intermediate GHG emission reduction target of 40% of 1990 levels by 2030, which was mandated into law with the signing of Senate Bill 32 in 2016. This executive order also directed California Air Resources Board to update the Climate Change Scoping Plan and quantify the state's 2030 GHG reduction goal.
- See Section 3.5, Energy, for a discussion of the State Renewable Portfolio Standards Program. Tulare County has local plans, such as Tulare County General Plan and the Tulare County Climate Action Plan, that support the above

listed State regulations. Sources of greenhouse gases in Tulare County include, energy, agricultural, and transportation, with agricultural emissions being the largest contributor (Tulare County 2018).

3.7.2 Discussion

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

Impact Determination. Less than significant.

The Project would generate short-term, temporary GHG emissions during the 3-month construction period. During construction, fossil fuel powered construction equipment, such as a backhoe, crane and various trucks, would produce CO₂ emissions. Additionally, there would be a slight increase in passenger vehicle trips during construction from workers and equipment accessing the site, that would generate CO₂ emissions as well.

Project maintenance consists of one to four vehicle trips to the site to ensure the SPS is properly functioning and to conduct vegetation management activities. These maintenance vehicle trips and any vegetation management equipment would generate minimal CO₂ emissions. Project operation would not generate any GHG emissions. The Project will install solar panels to power the residences at the Whitaker's Forest Research Station. Currently, the residences are powered by PG&E overhead distribution lines. As of 2020, 35% of PG&E's electricity came from renewable sources (California Public Utilities Commission 2021b). This Project would switch the residences to be powered by a solar, a fully renewable power source.

While the fossil fuel powered equipment and vehicles used to construct the SPS would contribute CO₂ emissions, these emissions would be negligible and would not have a significant impact on the environment. Furthermore, this Project guarantees that the electricity provided to cabins at the Whitaker's Forest Research Station will be from a clean energy source (solar panels) and therefore any GHG emissions associated with the current distribution of electricity to the site (associated with power generation used to supply electricity via the overhead distribution lines) would be eliminated.

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

Impact Determination. No impact.

There are various state regulations that support and set GHG emissions reduction targets, such as Assembly Bill 32 and Executive Order B-55-18. At the local level, the Tulare County General Plan and the Tulare County Climate Action Plan both have goals and policies that support the switch to renewable energy and reductions in GHG emissions (Tulare County 2012, 2018).

As discussed above, the vehicles and equipment (assuming they are gasoline or diesel powered) used to construct and maintain the Project would generate CO₂ emissions. Use of this equipment for construction of the SPS is not in conflict with any applicable plan, policy, or regulation related to GHG emissions. Project operation will provide electricity to the residences at Whitaker's Forest Research Station via renewable solar power (a clean source of energy). Transitioning the electrical grid to power from clean energy sources is consistent with local Tulare County and State of California policies and plans that set GHG emission reduction targets and promote the switch from fossil fuels to renewable energy. The Project will not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and there will be no impact.

3.8 Hazards and Hazardous Materials

Would the project:

Environmental Issues	Impact Determination
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less-Than-Significant Impact
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?	Less-Than-Significant Impact
c. 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
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No Impact
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less-Than-Significant Impact
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

3.8.1 Setting

The Project site is located in a remote undeveloped area surrounded by forest lands, within a “very high” fire hazard severity zone as defined by the California Department of Forestry and Fire Protection (CALFIRE 2007). There are two residential structures associated with the research station that utilize propane for heating and cooking and a leach field for sewage treatment. There are no waterbodies or flood hazard zones on the Project site. The nearest waterbody in the vicinity of the Project is Eshom Creek, which flows southwest and is approximately 200 feet downhill from the northern border of the Project site, and approximately 800 feet from the western border of the Project. There have been two large recent wildland fires in the immediate vicinity of Whitaker's Forest and the Project site: the Castle Fire, which occurred in 2020 and consumed about 13,600 acres, and the KNP Complex Fire, which occurred in 2021 and consumed about 88,307 acres, including areas within Whitaker's Forest and immediately adjacent to the Project site.

3.8.2 Discussion

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Impact Determination: Less than significant.

Project O&M activities would involve the routine transport, use, or disposal of hazardous materials and substances, such as fuels and lubricants for vehicles and equipment. The use and storage of these materials could potentially expose and adversely affect workers, the public, or the environment as a result of improper handling or use, accident, environmentally unsound disposal methods, or emergencies, resulting in adverse health effects. All activities would be subject to compliance with federal, state, and local hazardous materials regulations, which would be monitored by PG&E and a state department, such as California Department of Toxic Substances Control. Therefore, it is anticipated that the routine use of these materials handled in accordance with current laws and regulations would not create any impacts to the public or the environment. This impact would be less than significant.

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?

Impact Determination: Less than significant.

The Project facility will be enclosed by a 10-foot high galvanized chain-link security fence including access gates, razor wire, and V-shaped barbed wire. Batteries to store the solar-generated power will be mounted inside the shipping container. Ongoing maintenance and operation of the Project requires gas powered vehicles and equipment. With vehicle use there is always a risk of unforeseen circumstances and accidents resulting from a release of hazardous materials such as gas, diesel, or oil. It is anticipated that the routine use of these materials handled in accordance with laws and regulations would not create any reasonably foreseeable upset and accident conditions on the public or the environment. This impact would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact Determination. No Impact.

No schools are located within 0.25 mile of the Whitaker's Forest Research Station. There would be no impact.

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

Impact Determination: No Impact.

Government Code Section 65962.5 mandates that the California Department of Toxic Substance Control maintain a yearly up-to-date list of hazardous waste sites and these sites are cataloged in EnviroStor. There are no wells or hazardous waste sites within or near the Whitaker's Forest Research Station (California Department of Toxic Substances Control 2020; California Geologic Energy Management Division 2020). Additionally, there is no record of a Leaking Underground Storage Tank cleanup site within or near the Whitaker's Forest Research Station (California State Water Board 2020). Therefore, the Project is not located on a hazardous materials site and would not result in a significant hazard to the public or the environment. No impact would occur.

- 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?**

Impact Determination: No Impact.

Whitaker's Forest is not within an adopted airport land use plan and there are no airports within 2 miles of Whitaker's Forest. Therefore, there would be no impact related to safety hazards or excessive noise for people residing or working in the area.

- f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Impact Determination: Less than Significant.

Tulare County has an adopted General Plan, Multi-Jurisdictional Local Hazard Mitigation Plan, Emergency Operation Plan, and Tulare Unit Strategic Fire Plan. These plans are designed to assess and mitigate potential hazards and risks, and develop procedures for preparation and response to emergencies (Tulare County 2012).

There is the potential the Project could increase vehicle trips for O&M of the facilities at the Project site. This increase would be considered minor and would not physically interfere with an emergency response plan or emergency evacuation plan. Once on-site, vehicles would be either actively used within the Project site for the proposed installation of the SPS and associated facilities or staged off-road in the identified laydown area. Ingress and egress from the Whitaker's Forest Research Station would not be impaired. Therefore, vehicle use and staging would not

physically interfere with an emergency response plan or emergency evacuation plan. This is a less-than-significant impact.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Impact Determination. No Impact

The Project does not propose any facilities or modifications that would expose people or structures to wildland fires. Once the Project is completed and proves to be successful, the overhead electrical lines that currently provide electricity to the residential structures at the research station may be removed; thereby removing a wildland fire ignition source from the area. This is a potential future benefit of the Project, and not a component of this Project. Installation of the Project itself would have no impact.

3.9 Hydrology and Water Quality

Would the project:

Environmental Issues	Impact Determination
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less-Than-Significant Impact
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	Less-Than-Significant Impact
i. result in a substantial erosion or siltation on- or off-site;	Less-Than-Significant Impact
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	Less-Than-Significant Impact
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less-Than-Significant Impact
iv. impede or redirect flood flows?	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

3.9.1 Setting

The Project is located on the western slope of the Sierra Nevada mountain range within the Middle North Fork Kaweah River Hydrologic Unit Code (HUC) 12 watershed (19,053 acres), which is a sub-watershed of the larger Upper Kaweah HUC 8 watershed (974,567 acres). There are no waterbodies on the Project site. The nearest waterbody in the vicinity of the Project is Eshom Creek, which flows southwest and is approximately 200 feet downhill from the northern border of the Project site, and approximately 800 feet from the western border of the Project. The elevation of the Project site is 5,386 feet above mean sea level, which is roughly 170 feet higher than Eshom Creek (approximately 5,218 feet above mean sea level). Eshom Creek is a fish-bearing stream that flows generally south for approximately 8 miles, where it joins the North Fork Kaweah River. The Project site is relatively flat, with slopes of less than 5% that drain to the northwest toward Eshom Creek. The location of the proposed SPS is currently vegetated by grasses, and surrounding areas are forested. The staging area is an existing disturbed, unvegetated, and mostly level site. The relatively level slope

suggests the site may have been graded in the recent past (last 20 to 30 years). Visible tread marks across its surface indicate that vehicles have driven across the site during the wet season recently (within the last few years). The United States Geological Service National Land Cover Database (USGS 2019) identifies the land cover at the Project site as deciduous forest. The middle elevations (4,000 to 7,000 feet) of the southern Sierra Nevada mountain range receive an average of 40 to 45 inches of precipitation annually, much of which occurs as snowfall during the winter months (National Park Service 2021). As temperatures increase during the spring, melting snow may produce surface runoff. There are no existing stormwater facilities on the site.

3.9.2 Discussion

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Impact Determination. Less than significant.

Construction activities, such as grading, tree removal, concrete work, and equipment/materials storage and staging, have the potential to introduce pollutants to surface or ground water quality. However, BMPs designed to prevent or control stormwater runoff and the discharge of pollutants are required to be implemented as a condition of the Project's coverage under the Construction General Permit. BMPs that are required by the Construction General Permit include implementing good site management "housekeeping" measures such as proper material/waste handling and storage, non-storm water management, erosion and sediment controls, run-on and runoff controls, and the inspection, maintenance, and repair of all equipment, including structural BMPs such as silt fence or fiber rolls. As described above in Section 2.7, Permits, a site-specific SWPPP document will be developed detailing how these BMPs will be implemented and maintained during construction in order to avoid potential impacts to water quality. Once constructed, the SPS will have no impact on water quality as the SPS is a structure that is designed to be housed in outdoor settings. Therefore, the Project will have a less-than-significant impact on surface and 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?

Impact Determination. No impact.

The Project does not require the use of groundwater supplies, nor would it result in any changes to groundwater recharge. There will be no impact related to groundwater. Therefore, the Project will have no impact.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. result in a substantial erosion or siltation on- or off-site;

Impact Determination. Less than significant.

Erosion or sedimentation that may result from the construction activities described in Section 3.9.2.a above would be minimized through implementation of a site-specific SWPPP document. Crews will be responsible for the implementation and maintenance of erosion and sediment control BMPs to ensure sediment-laden stormwater does not leave the Project site. Therefore, the Project will have a less-than-significant impact on erosion or siltation on- or off-site.

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Impact Determination. Less than significant.

The foundation for the SPS and the gravel driveway would result in new impervious surfaces that have the potential to increase surface runoff; however, these areas total approximately 1/10 of an acre, which would not result in a substantial increase in surface runoff. The SPS design also includes the construction of a concrete valley gutter, which will help to divert stormwater runoff away from impervious surfaces and toward the forested, pervious areas to the north of the SPS and associated driveway. Therefore, the Project will have a less-than-significant impact on rates or amounts of surface runoff.

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

Impact Determination. Less than significant.

As discussed above, construction activities that have the potential to introduce pollutants to stormwater runoff would be minimized through the implementation of a site-specific SWPPP document. Additional runoff created by impervious surfaces associated with the SPS will be minimal, and will not impact stormwater drainage in or around the Project site, which is conveyed via overland surface runoff. Therefore, the Project will have a less-than-significant impact on stormwater drainages and stormwater quality.

iv. impede or redirect flood flows?

Impact Determination. No impact.

The Project is not located in a flood zone, nor would construction of the SPS impact drainage in a manner that would impede or redirect flood flows within surrounding creeks and drainages. Therefore, the Project will have no impact.

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

Impact Determination. No impact.

The Project is not located in a flood hazard, tsunami, or seiche zone. Project activities will not release pollutants with implementation of BMPs such as erosion and sediment control, good housekeeping, and proper materials storage. Therefore, the Project will have no impact.

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

Impact Determination. No impact.

Construction of a SPS does not conflict with nor obstruct implementation of a water quality control plan or sustainable groundwater management plan. Project construction activities that have the potential to result in erosion and sedimentation will comply with water quality control plans through enrollment under the State Water Board's Construction General Permit. Therefore, the Project will have no impact.

3.10 Noise

Would the project:

Environmental Issues	Impact Determination
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?	Less-Than-Significant Impact
b. Generation of excessive groundborne vibration or groundborne noise levels?	No Impact
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

3.10.1 Setting

The Project is located within the 350-acre UC Berkeley Whitaker's Forest in the central Sierra Nevada mountain range. The surrounding area is predominantly undeveloped mixed coniferous forest with scattered rural land uses. The community of Wilsonia is located 2.57 miles northwest of the Project site. The adjacent Forest Service Road 14S75 is a low use roadway generating minimal noise. Given the remote and undeveloped nature of the area surrounding the Project there is minimal external anthropogenic noise generation.

Sensitive receptors are defined as those users and uses, such as residential, schools and hospitals, that are not merely annoyed but actually interrupted by low noise levels. As the surrounding area is undeveloped, with the nearest town over two miles away, there are no sensitive receptors in the vicinity of the Project, aside from the seasonally occupied on-site Whitaker's Forest Research Station. The research station includes a three-bedroom cabin and two one-bedroom cabins. The one-bedroom cabins are currently not in use and the three-bedroom cabin is occupied only during the summer months.

3.10.2 Discussion

- 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?**

Impact Determination. Less than significant.

Construction of the Project will result in a temporary increase in ambient noise levels. The surrounding area has no development aside from the Whitaker's Forest Research Station. The seasonally occupied three-bedroom cabin can be considered a sensitive receptor that could potentially experience negative impacts from increases in ambient noise. As currently planned, Project construction is anticipated to begin as early as fall of 2022 and reach completion in 3 months. Under this current Project timeline construction will occur during the off-season while the residence is not occupied.

Project construction will require equipment such as an excavator, dump and bucket trucks, and soil backfill compaction equipment. Grading and excavation will be required for site preparation for the concrete pad and installation of new conduit. Project construction activities, such as grading and truck traffic, and equipment use, will generate temporary noise during regular workday hours (approximately 8 a.m. to 5 p.m.).

Daily Project operation will generate no noise. Yearly maintenance consists of one to four site visits to ensure the SPS is working and maintain vegetation clearance in accordance with CALFIRE requirements. Vegetation clearance will result in temporary noise impacts from equipment use.

The Noise Element of the Tulare General Plan lays out goals and policies to guide both short- and long-term land use development to address potential noise impacts and land use conflicts. The Project is not located in a noise-impacted area or a residential area and there are no nearby sensitive receptors aside from the research staff at Whitaker's Forest Research Station. Project noise generation will be temporary during construction and periodic vegetation management. The Project will not create land use conflicts in relation to noise generation impacts and is consistent with the Noise Element of the Tulare County General Plan (Tulare County 2012). Given the small scope of the Project and the lack of surrounding sensitive receptors there will be no substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project that conflict with applicable agency standard. This is a less-than-significant impact.

b. Generation of excessive groundborne vibration or groundborne noise levels?

Impact Determination. No impact.

Neither construction nor operation of the Project would generate substantial temporary or permanent increases in noise or vibration levels. Therefore, the Project does not have potential to result in generation of excessive groundborne vibration or groundborne noise levels. No impact would occur.

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?

Impact Determination. No impact.

There is no airport, private airstrip, or airport land use plan within two miles of the Project. There is no impact.

3.11 Tribal Cultural Resources

Environmental Issues	Impact Determination
<p>a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <p>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</p> <p>ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<p>Less-Than-Significant Impact</p> <p>Less-Than-Significant Impact</p>

3.11.1 Setting

As discussed in Section 3.4, Cultural Resources, the possibility of encountering buried precontact resources is unlikely as the geologic and soils data indicate pre-Quaternary soils predating Native American habitation of the area. In addition, as discussed in the setting of the Hydrology and Water Quality section, the relatively level slope suggests the site may have been graded in the recent past (last 20 to 30 years), and the visible tread marks across the surface of the Project site indicate that vehicles have driven across the site during the wet season recently (within the last few years). Based on this information, it is reasonable to conclude that the soils of the site have experienced some disturbance, which could further reduce the likelihood of encountering buried prehistoric and tribal resources. However, the potential for encountering a tribal cultural resource cannot be ruled out.

UC Berkeley has completed tribal consultation for this Project pursuant to Public Resources Code Section 21080.3. Native American consultation included a request for a sacred lands search from the NAHC and formal outreach to tribes that may be traditionally and culturally affiliated with the geographic area of the Project. Specifically, UC Berkeley contacted the California NAHC on May 4, 2022, regarding the Project and requested a tribal consultation list and sacred lands file search. The NAHC responded on June 20, 2022, with a list of tribes to be contacted. The NAHC also indicated in their correspondence that a search of their sacred lands file was completed with negative results for the area.

On June 7, 2022, UC Berkeley sent letters serving as a formal notice of this Project to 16 tribal contacts representing seven Native American tribes. Tribes contacted were: Big Sandy Rancheria of Western Mono Indians; Dunlap Band of Mono Indians; Kern Valley Indian Community; Santa Rosa Rancheria Tachi Yokut Tribe; Tubatulabals of Kern Valley; Tule River Indian Tribe; and the Wuksache Indian Tribe/Eshom Valley Band. Following receipt of NAHC's response to UC Berkeley's request for a list of tribes to be contacted, UC Berkeley sent an additional tribal consultation notice to the North Fork Mono Tribe on July 1, 2022. No tribes responded with a request for consultation or more information.

3.11.2 Discussion

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

Impact Determination. Less than significant.

Activities associated with the proposed Project are identified in Section 2.5, Project Construction. The consultation process between the California Native American tribes and UC Berkeley is ongoing and coordinated by UC Berkeley as provided in Public Resources Code Sections 21080.3.1 and 21080.3.2.

As noted above, while the possibility of encountering buried tribal resources is identified as unlikely based on the existing site conditions and the soils underlying the Project site, there is still the potential for resources to be present. Potential impacts to archaeological resources (which may include potential Native American historical resources) are addressed in Section 3.4, Cultural Resources. The negative results of the sacred lands file search and the measures taken to engage the tribes (none of whom have requested further consultation) reduce the potential of the Project to result in a substantial adverse change in the significance of a tribal cultural resource to a less-than-significant level.

3.12 Utilities and Service Systems

Would the project:

Environmental Issues	Impact Determination
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?	Less-Than-Significant Impact
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
c. Result in a determination by the waste water 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
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

3.12.1 Setting

The Project is located in the northeast corner of Tulare County, within a very remote and heavily forested area that is surrounded by national forest and national park public lands. At the research station there is no storm drainage system or sanitary sewer service provided. A leach field provides treatment for sewage. PG&E serves northern Tulare County's electric needs and has distribution lines running directly to the Project site. Two propane tanks provide heating and cooking for the operational cabin. There is no solid waste or recycling collection services provided at the Project site and all solid waste disposal and recyclable materials are hauled off-site by those who utilize the on-site accommodations.

3.12.2 Discussion

- 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?**

Impact Determination. Less than significant.

The Project does not involve the relocation or construction of new or expanded water, stormwater drainage, natural gas, wastewater treatment, or telecommunication facilities. The Project involves new construction of an independent standalone solar power system that replaces the existing traditional electrical power source provided by overhead distribution lines. As described in the Initial Study, installation of this standalone power system would not cause significant effects with incorporation of the mitigation measures identified. This is a less-than-significant impact.

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

Impact Determination. No Impact:

The Project does not require new or any water supply and therefore, would not affect water supplies available to serve any reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, the proposed Project would have no impact on water supplies.

- 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?**

Impact Determination. No Impact:

The Project does not create additional wastewater, nor would it result in the need to increase capacity for any projected demand. The Project does not involve any changes to the existing leach field that provides wastewater treatment for the cabins. There will be no impact related to the wastewater treatment capacity. Therefore, the Project will have no impact.

- 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?**

Impact Determination. No impact.

The Project would not generate new solid waste or require the need for new or additional waste management infrastructure. The Project would not impact the attainment of solid waste reduction goals. There would be no impact.

- e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

Impact Determination. No impact.

Any existing PG&E equipment or materials that are replaced with installation of the Project will be removed from the Project site and transported to a PG&E facility for proper disposal or recycling. Waste generated during Project construction, operation, or maintenance related activities will be recycled or disposed of in a manner that is consistent with all applicable federal, state, and local recycling reduction and waste mandates, requirements, and policies. Therefore, the Project will not result in any impacts related to conflicts with statutes and regulations regarding solid waste. There would be no impact.

3.13 Wildfire

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

Environmental Issues	Impact Determination
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	No impact
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less-Than-Significant Impact
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?	Less-Than-Significant Impact
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?	No Impact

3.13.1 Setting

The Whitaker's Forest Research Station is located within a "Very High" fire hazard severity zone as defined by CALFIRE (CALFIRE 2007). The Project facilities lie within the Kaweah Battalion of CALFIRE's Tulare Unit. According to the Tulare Unit Strategic Fire Plan the Kaweah Battalion averages approximately 8 to 15 fire starts annually (CALFIRE 2022). Lightening tends to be a common fire cause in the higher elevations (CALFIRE 2022). Although rare, starts in the upper elevations pose a significant potential for large wildland fires due to the abundance of fuels and rugged terrain (CALFIRE 2022). The most recent fires in the immediate vicinity of Whitaker's Forest were the Castle Fire, which occurred in 2020 and consumed about 13,600 acres, and the KNP Complex Fire, which occurred in 2021 and consumed about 88,307 acres. Although the KNP Complex fell mostly within Sequoia and Kings Canyon National Parks, the wildfire burned over much of Whitaker's Forest (University of California 2022). The research station, including the Project site cabins and supporting infrastructure, were left untouched.

In Tulare County, fuels management in the vicinity of Whitaker's Forest is accomplished through vegetation management programs, including local landowner defensible space programs, public education, and implementation of Timber Harvest Plans, which reduce overcrowded timber stands (CALFIRE 2022). There are specific objectives in the 2001 Timber Harvest Plan for Whitaker's Forest (UC Berkeley 2001) to reduce stand density and ground fuel loads to a point where fire can be reintroduced as a management

option. These include removing stems from the lower and middle canopy levels and by spacing individuals and small groups of trees to reduce ladder fuels and overly dense interlocking crowns which reduce tree vigor and increase crown fire risks. In addition, PG&E has identified strategies to reduce wildfire ignition potential that include enhanced vegetation management, asset inspection and repair, system hardening, and public safety power shutoffs (PG&E 2022). System hardening entails replacing or eliminating existing distribution lines in High Fire-Threat District areas, and the installation of stronger and more resilient equipment. The Project is an example of a system hardening effort.

3.13.2 Discussion

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

Impact Determination. No impact.

There is no known emergency response plan for Whitaker's Forest Research Station. The minimal amount of vehicles associated with construction of the SPS would not impair emergency response or evacuation. During the active construction period equipment would be staged off-road and therefore there would be no obstruction to use of any road for ingress or egress. The Project would have no impact to emergency response or evacuation.

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?

Impact Determination. Less than significant.

A project would be considered to have a significant impact if, due to existing natural factors, it increased the severity of existing fire risk in a manner that could expose project occupants to wildfires or place project occupants in areas where wildfire smoke is known to concentrate. A project that would increase the severity of existing fire risk due to natural factors could include, for example, a housing development project placed on a slope with prevailing uphill winds in a fire-prone area. Such placement could increase the amount of fuels that could feed a wildfire, which would exacerbate the existing risk of wind-driven wildfires and expose the occupants of the project to that very risk.

The Project does not exacerbate fire risks. The SPS would be constructed in a relatively flat clearing largely free of large vegetation. PG&E would remain responsible for operations and maintenance of the Project over time, including implementing vegetation management requirements consistent with CALFIRE regulations, and would obtain an easement from UC Berkeley to access the site.

Vegetation management activities may involve the use of gasoline powered equipment and tools for trimming and tree removal. Potential wildland fires could be caused by malfunction of vehicles or equipment. Standard maintenance of vehicles and equipment would decrease the risk of malfunction and potential ignition. Implementation of vegetation management in compliance with CALFIRE regulations would reduce the risk of wildfire associated with general operation of the SPS. The impact would be less than significant.

- 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?**

Impact Determination. Less than significant.

A project would be considered to have a significant impact if it included the construction of structures or facilities (whether temporary or permanent), the construction or operation of which could result in the temporary or ongoing exacerbation of fire risks or increase the rate or extent of the spread of wildfires.

The SPS would not exacerbate fire risk. The solar panels and battery storage shed would be contained within a shipping container on top of a concrete pad and surrounded by gravel and protective chain-link fencing. Regular maintenance, including ongoing vegetation management, would be implemented to reduce fire hazards associated with Project operation. Because the Project creates the opportunity for PG&E to remove the existing overhead electrical distribution lines, an anticipated future benefit of the Project would be a reduction in wildfire ignition risk caused by downed or damaged power lines. In this way, implementation of the Project would minimize the fire risks. The impact would be less than significant.

- 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?**

Impact Determination. No impact.

A project would be considered to have a significant impact if it created substantial new risks of post-fire downslope or downstream flooding or landslides or if it resulted in the placement of people or structures in areas of existing risk of post-fire downslope or downstream flooding or landslides.

The Project would not place people or structures in areas of existing risk of post-fire downslope or downstream flooding or landslides. The Project involves installation of an SPS and supporting infrastructure on a relatively level lot in a remote area. There would be no impact.

3.14 Mandatory Findings of Significance

Environmental Issues	Impact Determination
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
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	Less-Than-Significant Impact
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less-Than-Significant Impact

3.14.1 Discussion

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

Impact Determination. Less than significant with mitigation incorporated.

This Initial Study found that the proposed Project and associated activities would have a less-than-significant impact to the environment with mitigation incorporated to protect biological and cultural resources. Specifically, and as described above in Section 3.3, Biological Resources, with implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3, the Project would not 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 CDFW or U.S. Fish and Wildlife Service. As described above in Section 3.4, Cultural Resources, with implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3, the Project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5. With this mitigation incorporated, the Project would result in less-than-significant impacts to biological and cultural resources.

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

Impact Determination. Less than significant.

Cumulative environmental effects are multiple individual effects that, when considered together would be considerable, or compound or increase other environmental impacts. Individual effects may result from a single project or a number of separate projects and may occur at the same place and point in time or at different locations and over extended periods of time.

This is a unique Project in an undeveloped area. No other similar, separate projects are occurring or are proposed that would contribute to any cumulative impacts. Thus, cumulative impacts would be less than significant.

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

Impact Determination. Less than significant.

The Project would have impacts to human beings associated with increased noise during Project construction. The Project would also introduce a new modern structure to the area that would alter the aesthetic experience of the research station within the immediate vicinity of the Project site. These impacts were identified as less than significant, and are, therefore, not substantial adverse effects. This is a less-than-significant impact.

4 References

- Blair, Church & Flynn Consulting Engineers. 2021. Site Improvement for Pacific Gas & Electric Company, Whitaker Stand-Alone Power System. Preliminary Design Plans, November 2021.
- CALFIRE (California Department of Forestry and Fire Protection). 2007. CALFIRE Hazards Severity Zones in State Responsibility Areas. Available at: [CALFIRE website](#).
- CALFIRE (California Department of Forestry and Fire Protection). 2022. Tulare Unit Strategic Fire Plan, May 6, 2020. Available at: [CALFIRE website](#). Accessed: May 31, 2022.
- California Department of Fish and Wildlife. Natural Communities. Available at: [CDFW website](#). Accessed May 27, 2022.
- California Department of Toxic Substances Control. 2020. EnviroStor. Available at: [DTSC website](#). Accessed: June 1, 2022.
- California Geologic Energy Management Division. 2020. Well Finder. Available at: [Geospatial Data and Web Maps from the California Department of Conservation website](#). Accessed: May 31, 2022.
- California Geological Survey. 2015. Mineral Land Classification. Available at: [Department of Conservation Maps: California Geological Survey website](#). Accessed: May 18, 2022.
- California Geological Survey. 2016. CGS Map Sheet 48: Earthquake Shaking Potential for California (revised 2016). Available at: [Department of Conservation Maps: CGS Map Sheet 48: Earthquake Shaking Potential for California \(revised 2016\) website](#). Accessed: May 25, 2022.
- California Geological Survey. 2019. CGS Information Warehouse: Regulatory Maps. Available at: [CGS website](#). Accessed: May 25, 2022.
- California Geological Survey. 2021. EQ Zapp: California Earthquake Hazards Zone Application. September 23, 2021. Available at: [CGS website](#). Accessed: May 25, 2022.
- California Public Utilities Commission. 2021a. Renewables Portfolio Standard Program. Available at: [CPUC website](#).
- California Public Utilities Commission. 2021b. 2022 California Renewables Portfolio Standard Annual Report. November. Available at: [CPUC website](#).

- California State Water Board. 2020. GeoTracker. Available at: [State Water Board website](#). Accessed: June 1, 2022.
- Conservation Biology Institute. 2014. Tulare County Williamson Act and Agricultural Preserve Lands. Data Basin. Available at: [Data Basin website](#). Accessed: May 10, 2022.
- Dougherty, Jessica. 2021. Cultural Resources Constraints Report. On file, PG&E, San Francisco, California.
- Farmland Mapping and Monitoring Program. 2017. California Important Farmland Finder for Tulare County. State of California Department of Conservation, Division of Land Resource Protection. Available at: [Department of California Conservation website](#). Accessed: May 10, 2022.
- InciWeb. 2021. KNP Complex. Available at: [InciWeb website](#). Accessed: May 30, 2022.
- Kelson, K.I., D.T. Simpson, R.S. Rose, and D.C. Serafini. 2010. Seismic Hazard Characterization of the Kern Canyon Fault for Isabella Dam, California. January.
- National Park Service. 2021. Weather – Sequoia & Kings National Parks. Available at: [National Park Service website](#). Accessed: May 26, 2022.
- National Park Service. 2022. KNP Complex Fire. Available at: [National Park Service website](#). Accessed: May 30, 2022.
- Natural Resources Conservation Service. 2022. Custom Soil Resource Report for Sequoia and Kings Canyon National Parks, California; and Sequoia National Forest Parts of Fresno, Kern, and Tulare Counties, California. May 25.
- Olive, W.W., A.F. Chleborad, C.W. Frahme, Julius Shlocker, R.R. Schneider, and R.L. Schuster. 1989. Swelling Clays Map of the Conterminous United States. April 25.
- PG&E (Pacific Gas and Electric Company). 2021. 2021 Wildfire Mitigation Plan Report, Rulemaking 18-10-007. February 5. Available at: [PG&E Wildfire Safety Page website](#).
- PG&E (Pacific Gas & Electric Company). 2022. 2022 Wildfire Mitigation Plan Update. February 25. Available at: [PG&E Wildfire Mitigation Plan website](#). Accessed: May 31, 2022.
- Redmond, Jennifer, and Serah Timm. 2021. Archaeological Survey Report, Berkeley Microgrid. On file, PG&E, San Francisco, California.
- SJVAPCD (San Joaquin Valley Air Pollution Control District). 2012. CEQA Screening Tools: Small Project Analysis Levels for Ambient Air Quality Analysis – Combustion Exhaust Emissions. Available at: [SJVAPCD website](#). Accessed: July 1, 2022.

- SJVAPCD (San Joaquin Valley Air Pollution Control District). 2015. Guidelines for Assessing and Mitigation Air Quality Impacts. Available at: [SJVAPCD website](#).
- Thompson, Craig, et al. 2021. Fisher use of postfire landscapes: implications for habitat connectivity and restoration. *Western North American Naturalist* 81(2): 225–242.
- Tulare County. 2012. Tulare County General Plan 2030 Update. Tulare County, California. Available at: [Tulare County website](#).
- Tulare County. 2018. Tulare County Climate Action Plan (CAP). Available at: [Tulare County Climate Action Plan website](#).
- University of California, Berkeley. 2001. Whitaker Forest Restoration/Research Timber Harvest Plan. Section III: Additional Information.
- University of California. 2022. Berkeley Forests (webpage), Berkeley Rausser College of Natural Resources. Available at: [Berkeley Rausser website](#). Accessed: May 10, 2022.
- USGS (United States Geological Survey). 2019. National Land Cover Database. Available at: [USGS National Land Cover Database website](#). Accessed: May 26, 2022.

5 List of Preparers

UC BERKELEY (LEAD AGENCY)

Raphael Breines.....Senior Planner

CARDNO NOW STANTEC (CEQA COMPLIANCE)

Patricia Sussman Project Manager

Timothy Jones Cultural Resources

Cecilia Seter Biological Resources

Corinne Munger Biological Resources

Krista Nightingale Environmental Scientist

Julia Beals Environmental Scientist

Michelle Brown Environmental Planner

Iris Eschen Document and Section 508 Compliance Production