County of Santa Cruz
Department of Community Development and Infrastructure
701 Ocean Street, Fourth Floor, Santa Cruz, CA 95060
Planning (831) 454-2580 Public Works (831) 454-2160
https://cdi.santacruzcountyca.gov/

California Environmental Quality Act
Initial Study/Mitigated Negative Declaration

FINAL

Project Name: Mt Hermon Solar Array
(private microgrid/utility facility)

Date: October 7, 2026

Application Number: 251463

Staff Planner: Rebecca Rockom

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Appendix A. Biotic Report

Appendix B. Geotechnical Report

Appendix C. Archeological Report

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Acronyms and Abbreviations

AAQS	ambient air quality standards
AB	Assembly Bill
AMBAG	Association of Monterey Bay Area Governments
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CAA	Clean Air Act
CAAP	Climate Action and Adaptation Plan
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALINE 4	California Line Source
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCCE	Central Coast Community Energy
CDFW	California Department of Fish and Wildlife
CDI	Santa Cruz County Community Development & Infrastructure
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COAD	Community Organizations Assisting in Disaster
CWD	Central Water District
CWPP	Community Wildfire Prevention Plan
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
EIR	environmental impact report

EPSS	Emergency Power Safety Shutoff
ESHA	environmentally sensitive habitat areas
EV	electric vehicle
EVSE	electric vehicle supply equipment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
GSP	Groundwater Sustainability Plan
GWP	global warming potential
HE	Housing Element
HIZ	home ignition zone
HVAC	heating, ventilation, and air conditioning
IS	Initial Study
ITE	Institute of Transportation Engineers
JPA	joint powers authority
LAFCO	Local Agency Formation Commission
LCP	Local Coastal Program
Ldn	day-night noise level
Leq	equivalent continuous sound level
LOS	level of service
MBARD Guidelines	2008 CEQA Air Quality Guidelines
MBARD	Monterey Bay Air Resources District
MBTA	Migratory Bird Treaty Act
MMRP	mitigation monitoring and reporting program
MOU	Memorandum of Understanding
MT	metric ton
MTP	Metropolitan Transportation Plan
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NCCAB	North Central Coast Air Basin
NGO	non-governmental organization
NO	nitric oxide
NO_2	nitrogen dioxide

NOI	Notice of Intent
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
O_3	ozone
OPR	Governor's Office of Planning and Research
OSWS	on-site wastewater systems
PG&E	Pacific Gas & Electric
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
PPV	peak particle velocity
PRC	California Public Resources Code
PV Water	Pajaro Valley Water Management Agency
PV	photovoltaic
RCPWG	Monterey Bay Area Regional Climate Project Working Group
Recycling & Trash	Santa Cruz County Recycling and Solid Waste Services
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gas
SB	Senate Bill
SCCC	Santa Cruz County Code
SCS	Sustainable Communities Strategy
SGMA	Sustainable Groundwater Management Act
SLVWD	San Lorenzo Valley Water District
SMGWA	Santa Margarita Groundwater Agency
SO_2	sulfur dioxide
SO_x	sulfur oxide
SqCWD	Soquel Creek Water District
SRA	State Responsibility Area
SVWD	Scotts Valley Water District
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollutant Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDM	Transportation Demand Management
USEPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
V/C	volume-to-capacity ratio
VdB	vibration decibel
VMT	vehicle miles traveled
VOC	volatile organic compound
WUI	Wildland Urban Interface
ZEV	zero-emission vehicle

1 Overview and Environmental Determination

Applicant: Mars Energy Group

Property Owner: Mt. Hermon Association

Assessor's Parcel Number(s): 071-331-06 & 071-331-05

Supervisorial District: Supervisorial District 1

1.1 Project Location

The project is located at the northwestern corner of Conference Drive (no situs) and East Zayante Road in the unincorporated community of Felton in central Santa Cruz County (Figure 1.1, Project Location Map). Santa Cruz County is bounded to the north by San Mateo County, to the south by Monterey and San Benito Counties, to the east by Santa Clara County, and to the south and west by Monterey Bay and the Pacific Ocean.

1.2 Summary of Project Description

Proposal to construct an approximately 39,800-square-foot private microgrid utility facility consisting of an 831.60 kW ground-mounted photovoltaic (PV) system with a maximum height of nine feet, on a vacant 8.88-acre parcel to provide electric power exclusively for use by the Mt. Hermon Camp and Conference Center. All excess energy will be used to offset the client's usage; this project will not have an Energy Storage System. The array is proposed to be sited on a knoll in the center of the parcel, outside of the oak woodland and needlegrass grassland habitats (Figure 1.2, Site Plan).

The project requires a Conditional Use Permit (CUP), a Conditional Site Development Permit (CSP), Biotic Report, Geotechnical Report, and a Variance to increase the lot coverage from 10% to about 10.5%.

The project includes the removal of 5 significant (equal to or greater than 20 inches diameter at 4.5 feet above ground level) oak trees, the addition of a six-foot-tall perimeter fence around the array, and a new gravel road to access the site from the west over the adjacent parcel APN 071-331-05, also owned by the Mount Hermon Camp and Conference Center.

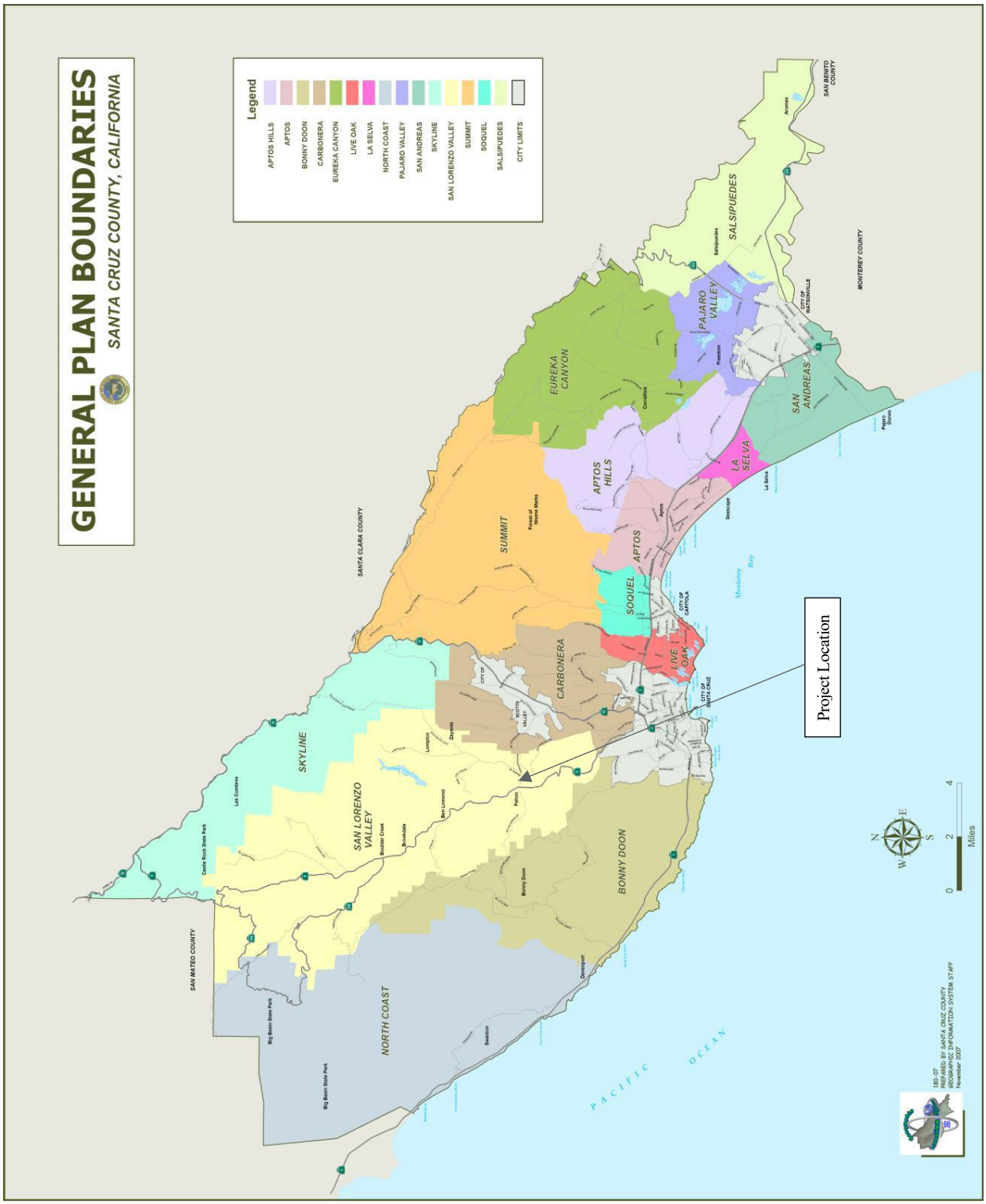


Figure 1.1 Project Location

Figure 1.2 Proposed Site Plan - Microgrid Layout (with proposed tree removal)



1.3 Environmental Factors Potentially Affected

The environmental resource areas checked below would be potentially affected by the project, warranting further analysis and discussion to determine the level of significance of impacts. The discussion is presented in Section 3 of this Initial Study (IS).

☒ Aesthetics and Scenic Resources	☐ Agriculture and 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 Cultural Resources
☒ Utilities and Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

1.4 Discretionary Approval(s) Being Considered

☐ Coastal Development Permit	☒ Development Permit	☐ General Plan Amendment
☐ Grading Permit	☐ Local Agency Formation Commission (LAFCO) Annexation	☐ Land Division
☐ Rezoning	☐ Riparian Exception	☐ Sewer Connection Permit
☒ Other: Use Permit		
☒ Other: Variance		

1.5 Other Public Agencies Whose Approval is Required (e.g., permits, financing approval, or participation agreement)

Permit Type/Action	Agency
N/A	N/A

1.6 Consultation with Native American Tribes

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.?

No California Native American Tribes traditionally and culturally affiliated with the area of Santa Cruz County have requested consultation pursuant to California Public Resources Code, Section 21080.3.1.

1.7 Environmental Commitments

The following environmental commitments are part of the project or are required by County policies and/or regulations. They are included in the mitigation monitoring and reporting program (MMRP) and are conditions of approval:

- Water Efficient Landscape Plan
- Removal of invasive French Broom species
- Maintenance of the development site and revegetation areas to remove invasive species
- Maintenance of installed landscaping for the life of the project

1.8 Mitigation Measures

The following mitigation measures identified in this IS are required to reduce impacts to a less than significant level. They are incorporated as conditions of approval and included in the MMRP.

- BIO-1: Protect Sensitive Natural Communities During Construction.
- BIO-2: Protect Active Woodrat Nests.
- BIO-3: Avoid Impacts on Nesting Birds.
- BIO-4: Replacement Oak Trees.
- HAZ-1: Six-foot Tall Perimeter Fence

Refer to Section 3 and the MMRP for the full mitigation measures and additional detail.

1.9 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 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 (1) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

County to provide, Environmental Coordinator

[Select date]
Date

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2 Project Description

2.1 Background Information

2.1.1 Existing Site Conditions

Parcel Size (acres):	8.88 acres
Existing Land Use(s):	Vacant acreage
Vegetation:	French Broom/Coyote Brush, Needlegrass Grassland, Annual Grassland, Oak Woodland, Rush-Sedge Meadow, Non-native trees
Slope Area Affected by Project:	☒ 0–30% ☒ 31–100% ☐ N/A
Nearby Watercourse:	Zayante Creek
Distance to:	100 feet east

2.1.2 Environmental Resources and Constraints (mapped)

Agricultural Resources:	N	Archaeologically Sensitive:	N
Biologically Sensitive Habitat:	Y	Designated Scenic Corridor:	N
Erosion:	N	Fault Zone:	N
Fire Hazard Area:	N	Floodplain:	N
Groundwater Recharge:	N	Hazardous Materials:	N
Historic Resources:	N	Landslide:	N
Liquefaction:	N	Mineral Resources:	N
Noise Constraint:	N	Paleontologically Sensitive:	N
Timber/Forest:	N	Water Supply Watershed:	Y

2.1.3 Services

Drainage Zone/District:	Flood Control District 6	Fire Protection:	Felton Fire Protection District
Project Access Road:	Conference Drive (existing) / new road over adjacent parcel (APN 07133105) from proposed Felton Fair parking lot (proposed)	School District:	San Lorenzo Valley
Sanitation District:	CSA 12 Septic Maintenance	Water Supply Provider:	San Lorenzo Valley Water District

2.1.4 Planning Designations

Coastal Zone: ☐ Inside ☒ Outside

General Plan Land Use Designation: Urban Very Low Density Residential (R-UVL)

Zoning Designation: Special Use (SU)

Combining Zone District: N/A

Urban Services Line: ☐ Inside ☒ Outside

Rural Services Line: ☒ Inside ☐ Outside

2.1.5 Environmental Setting and Surrounding Land Uses

The project site consists of an undeveloped, irregularly shaped parcel at the corner of Conference Drive and East Zayante Road, located at the edge of the Felton town center. Felton is an unincorporated village approximately 6 miles north of the city of Santa Cruz. The subject parcel is one of two undeveloped parcels between a shopping center and residential neighborhoods to the east and south. The topography of the site is varied, sloping steeply southward from Mt. Hermon Road before flattening out towards the middle of the parcel and continuing down a gradual descent to a densely wooded area covering the lower third of the property along Conference Drive. Six vegetation types can be found on the project site: needlegrass grassland, annual grassland, coyote brush scrub/French broom thicket, oak woodland, rush-sedge meadow, and non-native trees.

Santa Cruz County

Santa Cruz County is situated along the northern end of Monterey Bay, approximately 10 miles south of the City of San José and 55 miles south of the City of San Francisco, along the Central Coast. There are sensitive environments and development limitations due to the Pacific Ocean and Monterey Bay to the west and south, the mountains inland, the prime agricultural lands along both the northern and southern coast of the County, and sensitive habitat throughout the County. Simultaneously, these natural features create an environment that attracts visitors and new residents, requiring specific accommodations to ensure development is done in a safe, responsible, and environmentally respectful manner.

The California Coastal Zone affects nearly one-third of the land in the urbanized area of the unincorporated County with special restrictions, regulations, and processing procedures required for development within that area. Steep hillsides require extensive review and engineering to ensure that slopes remain stable, buildings are safe, and water quality is not impacted by increased erosion. The farmland in the County is among the best in the world, and the agriculture industry is a primary economic generator for the County. Preserving this industry in the face of population growth requires that soils best suited to commercial agriculture remain active in crop production rather than converting to other land uses.

Project Area

The project site is undeveloped and zoned for Special Use (SU), within the Urban Very Low Density (R-UVL) General Plan designation.

Surrounding land uses include large undeveloped parcels zoned as Parks, Recreation and Open Space (PR) directly east, a single-family residential (R-1) neighborhood to the northeast, and Mt. Hermon Road to the north, with low density Residential Agricultural (RA) parcels beyond the right of way, farther north. A second vacant parcel sits between the subject site and the Felton Fair Shopping Center (developed with a Safeway grocery store and CVS Pharmacy) to the west. Conference Drive, to the south, provides access to the Mt. Hermon Christian Conference Center.

The project site is surrounded by a 4-foot wire fence and currently accessed by a gate and dirt path from Conference Drive to the south, but the proposal would include an alternate gravel road to access the site from the west across the adjacent parcel (APN 071-331-05), which is under the same ownership.

2.1.6 Project Background

The subject parcel is one of several parcels comprising the Mt. Hermon Christian Conference Center, which encompasses over 440 acres in total. Although the subject parcel has never been developed, research into the parcel's permit history indicates a variety of uses have been proposed but never realized, including affordable housing (07-0056 / 08-0338), a residential subdivision (95-0057), and an outdoor recreational facility (131234). Common community concerns generated by the previous proposals include increased traffic congestion, environmental impacts, water usage, and onsite sewage treatment.

2.2 Detailed Project Description

Solar energy is vital in rural California communities because it addresses energy access, economic sustainability, and environmental goals in areas that often face infrastructure gaps and resource constraints. The Mt. Hermon Camp and Conference Center supports jobs in hospitality, event management, recreation, and maintenance. Its facilities attract visitors and participants from across the region, supporting local businesses such as restaurants, lodging, and retail. Accordingly, the Camp and Conference facilities are significant energy consumers. The annual consumption of 1,213,925 kWh by Mount Hermon facilities will be completely offset by this behind the meter solar installation.

The proposal includes new construction of approximately 39,850 square feet of ground-mounted solar panels, installed in thirteen rows of approximately 3,060 square feet each. The system is proposed as a behind-the-meter solar installation, dedicated solely to serving the electrical needs of Mt Hermon Christian School and is not intended to provide power to any other off-site customers, homes, or businesses. The proposed annual energy production is approximately 1,413,586 kilowatt-hours (kWh). All excess energy will be used to offset the client's usage; this project will not have an Energy Storage System.

The PV arrays will be mounted on above ground racking supported on galvanized steel piles. These steel piles will be driven into the ground to an embedment depth of approximately 10 feet by machinery specifically designed for that purpose. No excavation is required to install the steel piles. Installing the PV arrays will not result in more impermeable surfaces since the ground beneath the modules will remain a grass covered landscape. Approximately 1,507 linear feet of new six-foot tall chain link fencing will be installed around the perimeter of the project.

The selected site avoids sensitive oak and needlegrass grassland habitats, retaining the greatest number of oak trees and preserving the oak woodlands along the south property line; however, the project still requires the removal of five significant oak trees (Figure 2). Therefore, to improve

the native habitat surrounding the proposed solar field, the County Environmental Planning section has required a tree replacement ratio of 5:1 for trees between 12- and 23.5-inches diameter at breast height (4.5 feet), and a replacement ratio of 10:1 for the removal of trees 24 inches in diameter at breast height. A total of 45 oak trees will be required to be planted, maintained, and monitored for 5 years from project completion.

The natural slope of the hillside is an advantage for the efficiency of a solar panel array. Twenty-two percent is the optimal tilt angle at this location and, as designed, the chosen location helps keep the panels closer to the natural grade of the property.

When viewed from the east (most visible vantage point due to a clearing in landscape), the full array is tucked from view of the nearest neighbors; and the height of the panels will not rise above the existing ridgelines to the west.

Additionally, the project entails the creation of an access road from the adjacent parcel to the west (APN 071-331-05). The access road will follow the existing topography, which helps minimize disturbance and reduce the need for significant grading. No additional tree removal would be required for this road. Only minor grading is expected in a very localized area near the array entrance.

As proposed, the operational requirements of the site are expected to be minimal. Landscape maintenance will be primarily weed abatement and vegetation management to maintain clearances around the array and equipment pads, typically 2–4 times per year. No routine heavy repair activity is anticipated at this site unless triggered by equipment failure or weather damage. There will be no dedicated on-site security staff; the security system will be passive, provided by fencing, locked gates, and warning signage. A standard 6-foot-high chain-link fence will surround the array and electrical equipment, with gates to allow PG&E and emergency vehicle access.

3 Evaluation of Environmental Impacts

This section documents the screening process used to identify and focus on environmental impacts that could result from the project. The checklist portion of the IS begins below and includes explanations of each California Environmental Quality Act (CEQA) issue topic. CEQA requires that an explanation of all answers be provided along with this checklist, including a discussion of ways to mitigate any significant effects identified. The following terminology is used to describe the potential level of significance of impacts:

- **No Impact.** The analysis concludes that the project would not affect the particular resource in any way.

- **Less than Significant Impact.** The analysis concludes that the project would not cause substantial adverse change to the environment without the incorporation of mitigation.
- **Less than Significant Impact with Mitigation.** The analysis concludes that it would not cause substantial adverse change to the environment with the inclusion of mitigation agreed upon by the applicant.
- **Potentially Significant Impact.** The analysis concludes that the project could result in a substantial adverse effect or significant effect on the environment, even if mitigation is incorporated. If there are one or more "Potentially Significant Impact" entries when the determination is made, an environmental impact report (EIR) is required.

3.1 Aesthetics and Scenic Resources

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic view or vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway or along a County-designated scenic road?	☐	☐	☒	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings or, in urbanized areas, conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

3.1.1 Existing Conditions

The project site is an undeveloped 8.88 undeveloped parcel inside the Rural Services Line, an urbanized area of the San Lorenzo Valley in the Santa Cruz Mountains. The parcel is located between the Town of Felton commercial core to the west and south, and a residential community to the northeast. The parcel is adjacent to Mt. Hermon Road and approximately 150 feet north of Graham Hill Road, which are both designated Scenic Highways, per the County General Plan.

The topography of the project site is varied, sloping steeply southward from Mt. Hermon Road before flattening out towards the middle of the parcel and continuing down a gradual descent to a densely wooded area covering the lower third of the property along Conference Drive. The array would be sited on a knoll in the center of the parcel.

The site is most visible to drivers along Conference Drive or East Zayante Road; however, the perimeter of the parcel along these two roads is densely vegetated and the interior of the parcel is minimally visible from the street. To avoid walking along the right-of-way, pedestrians have been granted permission to utilize a dirt path on the subject property that follows the existing fenceline. The footpath between East Zayante Road and the fence offers glimpses into the parcel (Figure 3.1-1).

The site can be viewed from a private driveway to the east due to a clearing in the landscape (Figure 3.1-2). From this vantage point the full array would be tucked from view and only the fence would be visible to the residences. The height of the panels may be visible above the height of the fence, but the silhouette of the panels would not protrude above the existing ridgelines to the west.

The surrounding oak woodland to the south obscures much of the site from view from Graham Hill Road. The proposed solar location is also not visible from Mount Hermon Road as the site slopes upward then downhill away from the road and existing trees/shrubs prevent views while traveling by vehicle. Traffic speeds, curves, and lack of sidewalks discourage pedestrian access along Mount Hermon Road. Additionally, a lack of vehicle turnouts precludes formal viewpoints from this location.

The project meets the intent of General Plan Policy BE-4.2.4 for Wildlife-Compatible Development. The proposed solar array limits reflectivity, glare, and artificial light pollution which preserves dark skies and reduce impacts to wildlife, especially in rural areas. The required landscape restoration will replace areas of invasive species with native plantings which would provide habitat for birds and wildlife.

Figure 3.1-1. View of Parcel from Footpath along East Zayante Road



Figure 3.1-2. View of Parcel from Intersection of Graham Hill Road and Conference Drive



3.1.2 Impact Analysis

a. Would the project have a substantial adverse effect on a scenic view or vista?

Less than Significant Impact. Scenic views or vistas in the project area include views of the hills north of Mount Hermon Road available from Graham Hill Road.

The project would be centered in the middle of the parcel and due to topography and existing trees and shrubs would be minimally visible from any public right-of-way, including Graham Hill Road and Mount Hermon Road. The proposed solar panel array complies with the requirements of the County Design Review Ordinance, in that the proposed project will incorporate site and design features such as fencing and native landscaping to reduce the visual impact of the proposed development on surrounding land uses and the natural landscape. Therefore, the impact would be less than significant. No mitigation is required.

b. Would the project substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway or along a County-designated scenic road?

Less than Significant Impact. The project is located adjacent to Mount Hermon Road, but would not be visible from any public viewpoints from this road due to the steep downward slope and the existence of large trees close to the right-of-way.

The project may affect trees or other scenic resources along or visible from Graham Hill Road, when driving eastward and looking north. While the solar panels themselves are not expected to be visible, the removal of some of the trees may alter the appearance of the dense tree line looking toward Mount Hermon Road, as it currently exists. However, the required replanting of 45 trees should grow and fill in any gaps. Therefore, the project would not substantially damage scenic resources, including views from the roadway. The impact would be less than significant. No mitigation is required.

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings or, in urbanized areas, conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The project is located in an urbanized area. The project is designed to be consistent with Santa Cruz County Code sections that regulate height, bulk, density, setback, landscaping, and design of new structures in the County, including Santa Cruz County Code, Chapter 13.11, Site, Architectural and Landscape Design Review, as well as all applicable design guidelines. With approval to allow a small increase in lot coverage, the proposal would

substantially meet all the development standards, including the maximum structure height and minimum property setbacks, for the Special Use (SU) Zone District. Therefore, the impact would be less than significant. No mitigation is required.

d. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

3.1.3 Less than Significant Impact. **No Impact. The project does not propose any use of outdoor lighting or building materials with highly reflective properties, such as highly reflective glass or high-gloss surface colors. There is not a need to supply artificial lighting for maintenance or security. The solar panels appear as a matte dark grey. Therefore, the project will not create any new sources of light pollution that could contribute to skyglow, light trespass, or glare and adversely affect day or nighttime views in area. Therefore, the impact would be less than significant. No mitigation is required.**

3.1.4 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.2 Agriculture and Forestry Resources

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

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Existing Conditions

The project site is zoned Special Use and designated as Vacant Commercial land. It is currently undeveloped and is in use as grazing and meadow land. The project site is not designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. The project site is not under a Williamson Act contract.

Adjacent parcels include an undeveloped commercial property to the west zoned as Special Use, several parcels developed as Parks, Recreation and Open Space directly east, a neighborhood of single-family residential to the north, and a narrow parcel developed as Public Administration to the south.

3.2.2 Impact Analysis

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

No Impact. The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the FMMP of the California Natural Resources Agency. In addition, the project site does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance would be converted to a non-agricultural use. Therefore, there would be no impact.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is not zoned for agriculture or under a Williamson Act contract. Therefore, there is no impact.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. There is no forest land in or immediately adjacent to the project site. Therefore, there is no impact.

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

No Impact. The project site and surrounding area within a radius of three mile(s) do not contain any lands designated Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance as shown on the maps prepared pursuant to the FMMP of the California Natural Resources Agency. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance would be converted to a non-agricultural use. In addition, the project site contains no forest land, and no forest land occurs within one-half mile(s) of the project site. Therefore, there would be no impact.

3.2.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.3 Air Quality

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

Acronym	Definition
AAQS	ambient air quality standards
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CALINE 4	California Line Source
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent

Acronym	Definition
DPM	diesel particulate matter
MBARD	Monterey Bay Air Resources District
MBARD Guidelines	2008 CEQA Air Quality Guidelines
NCCAB	North Central Coast Air Basin
NO	nitric oxide
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
O_3	ozone
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
ROG	reactive organic gas
SO_2	sulfur dioxide
SO_x	sulfur oxide
TAC	toxic air contaminant
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

3.3.1 Existing Conditions

Santa Cruz County is located in the North Central Coast Air Basin (NCCAB), which is composed of Monterey, Santa Cruz, and San Benito Counties, covering an area of 5,100 square miles along the Central Coast of California. The Monterey Bay Air Resources District (MBARD) consists of all three counties within the NCCAB; therefore, the County is within the jurisdiction of the MBARD. MBARD is responsible for air monitoring, permitting, enforcement, long-range air quality planning, regulatory development, education, and public information activities related to air pollution, as required by the California Clean Air Act and its amendments and the federal Clean Air Act (CAA) and its amendments.

The federal and state CAAs mandate the control and reduction of certain air pollutants. Under these acts, the U.S. Environmental Protection Agency (USEPA) and CARB established ambient air quality standards (AAQS) for certain "criteria air pollutants" considered harmful to public health and the environment. The primary criteria air pollutants of concern for land development projects are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (N_2O), and particulate matter (PM).

California standards are generally more restrictive than federal standards. Depending on if the standards are met or exceeded, the local air basin is classified as in "attainment" or in "non-attainment," respectively. The NCCAB is in attainment or unclassifiable status for all federal AAQS. For state AAQS, the NCCAB is currently in non-attainment status for respirable particulate matter (PM_{10}). The criteria for air pollutants of concern are summarized in the following text.

Most O_3 in the atmosphere is formed because of the interaction of ultraviolet light, reactive organic gases (ROGs), and oxides of nitrogen (NO_x). ROG (the organic compound fraction relevant to O_3 formation and sufficient equivalent for the purposes of this analysis to volatile organic compounds [VOCs]) is composed of non-methane hydrocarbons (with some specific exclusions), and NO_x is made of different chemical combinations of nitrogen and oxygen, mainly nitric oxide (NO) and nitrogen dioxide (NO_2). The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major cause of CO. CO is also produced in the winter from wood stoves and fireplaces. NO_2 is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of NO_x produced by combustion is NO, but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Suspended PM (airborne dust) consists of particles small enough to remain suspended in the air for long periods. Fine PM includes particles small enough to be inhaled (i.e., 10 microns or less in size [PM_{10}]), pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulates less than 2.5 microns in diameter ($PM_{2.5}$) are of particular concern for health. Sulfur dioxide (SO_2) is primarily formed from fossil fuel combustion at power plants and other industrial facilities. SO_2 emissions lead to the formation of other sulfur oxides (SO_x) that can react with other compounds in the atmosphere and contribute to PM pollution.

3.3.2 Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The MBARD Air Quality Management Plan (AQMP) is the applicable Air Quality Plan for the project site. The most recent update (2012–2015) is the seventh update to the 1991 MBARD AQMP (MBARD 2017). The project would not involve construction activities that require diesel-powered equipment or vehicles, and it would not introduce any new sources of air pollutant emissions during operation. The project would not contribute any criteria air pollutants to the region and would therefore not conflict with AQMP implementation. The project would have no impact related to applicable Air Quality Plans.

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

No Impact. The project would not involve construction activities that require diesel-powered equipment or vehicles, and it would not introduce any new sources of air pollutant emissions during operation. The project would not contribute any criteria air pollutants to the region and would therefore not result in a cumulatively considerable net increase of any criteria air pollutant. The project would have no impact related to criteria air pollutant emissions.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

No Impact. The project would not involve construction activities that require diesel-powered equipment or vehicles, and it would not introduce any new sources of air pollutant emissions during operation. The project would not result in any new emissions of criteria air pollutants or toxic air contaminants (TACs) to the region and would therefore not expose sensitive receptors to new or increased pollutant concentrations. The project would have no impact related to sensitive receptors.

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

No Impact. The project would not involve construction activities that require diesel-powered equipment or vehicles. During operation, land uses typically producing objectionable odors include sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005). The project would consist of 1,512 modules or panels which convert sunlight into power without burning fuel; they produce no sulfur dioxide (SO_2), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), or volatile organic compounds (VOCs) at the point of generation. The project does not include any known sources of objectionable odors associated with the long-term operations phase. The project would have no impact.

3.3.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.4 Biological Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 Existing Conditions

The project site is located within the Zayante Creek–San Lorenzo River watershed and consists of a variety of upland and low-lying areas that support several vegetation communities. Vegetation on the site includes oak woodland, native and nonnative grasslands, French broom/coyote brush scrub, rush-sedge meadow, and areas of nonnative trees. Oak woodland is present throughout portions of the site, including more contiguous woodland in the southern portion. The site also contains small, isolated rush-sedge meadow areas generally associated with low-lying topographic depressions.

Previous biological studies and the current field survey did not identify wetlands meeting the applicable three-parameter wetland criteria on the property. The National Wetland Inventory also does not identify wetland features within the site. Nearby hydrologic features include Zayante Creek and the San Lorenzo River.

The site provides habitat for a variety of common wildlife species, including birds and mammals. Wildlife or evidence of wildlife observed during the field survey included several common bird species, black-tailed deer, and woodrat nests. The site also contains invasive nonnative vegetation, particularly French broom and acacia. Oak woodland is considered Sensitive Habitat under Santa Cruz County Code Chapter 16.32.

The project site is in an area that was identified as a potential area of biotic concern during preliminary analysis. A biotic assessment was conducted to identify any potential habitat for special-status or sensitive plant and wildlife species; sensitive habitats; including aquatic features; or wildlife movement habitat. In addition, County policies and ordinances protecting biological resources and approved local, regional, or state habitat conservation plans were considered. The project has been deliberately sited to reduce impacts to the oak woodland habitat and avoid the more sensitive needlegrass grassland and rush-sedge meadow, which meets the goals of General Plan Policies BE-1.1.4 and 4.2.2 by siting development where it will have the least effect on natural resources.

3.4.2 Impact Analysis

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The project site is in an area of potential biotic concern as identified during preliminary analysis. A biotic assessment was conducted to identify potential special-status or sensitive plant and

wildlife species. The discussion in this section is based on the following report prepared for the proposed project:

- Biotic Report / Mars Energy Group Conference Drive Solar Project, Terracon. February 27, 2026. Appendix A.

The project site was evaluated for the plant and wildlife species listed in Table 3.4.1 and Table 3.4.2 and also found in the Terracon Biotic Report (Appendix A, pp. 8-15).

Table 3.4-1. Special-Status Plant Species

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Plants					
Humboldt County milk-vetch	*Astragulus agnicidus*	SE	Broadleaved upland forest, north coast coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Marsh sandwort	*Arenaria paludiicola*	FE/SE	Freshwater marsh, swamp, wetland	A	Not Expected: no suitable habitat observed within Study Area.
Ben Lomond spineflower	*Chorizanthe pungens var. hartwegiana*	FE	Low montane coniferous forest, sand hills	A	Not Expected: no suitable habitat observed within Study Area.
Ben Lomond wallflower	*Erysimum teretifolium*	FE	Santa Cruz/Ben Lomond sand hills	A	Not Expected: no suitable habitat observed within Study Area.
Robust spineflower	*Chorizanthe robusta var. robusta*	FE	Chaparral, cismontane woodland, coastal bluff scrub, coastal dunes.	A	Not Expected: no suitable habitat observed within Study Area.
Santa Clara Valley dudleya	*Dudleya abramsii spp. Setchellii*	FE	Cismontane woodland, ultramafic, valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
Santa Cruz tarplant	*Holocarpha macradenia*	FT/SE	Coastal prairie, coastal scrub, valley & foothill grassland	HP	Low: nearest occurrence off Graham Hill Rd.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Scotts Valley polygonum	*Polygonum hickmanii*	FE/FE	valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
White-rayed pentachaeta	*Pentachaeta bellidiflora*	FE/SE	Ultramafic, valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
San Francisco popcornflower	*Plagiobothrys diffusus*	SE	Coastal prairie, valley & foothill grassland	HP	Low: closest occurrence >3 mi southwest of study Area near UCSC/Wilder Ranch
Butano Ridge cypress	*Hesperocyparis abramsiana var. butanoensis*	FT/SE	Chaparral, closed-cone coniferous forest, lower montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Santa Cruz cypress	*Hesperocyparis abramsiana*	FT/SE	Chaparral, closed-cone coniferous forest, lower montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Marsh microseris	*Microseris paludosa*	CNPS 1B.2	Meadows & seeps, coastal prairie, valley & foothill grassland	HP	Low: nearest known occurrence since 1950 is > 3 mi from Study Area near UCSC/Wilder Ranch
Ben Lomond Buckwheat	*Eriogonum nudum* var. *decurrens*	CNPS 1B.1	Sand hills, chaparral, foothill woodland	A	Low: most recent nearby observations from 1980, or
Deceiving sedge	*Carex saliniformis*	CNPS 1B.2	Meadows & seeps, coastal prairie	HP	Low: nearest observation in Scott's Valley, Camp Ever's Bog

Table 3.4-2. Sensitive and Special-Status Wildlife Species

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Birds					
Bald eagle	*Haliaeetus leucocephalus*	SE	Lower montane coniferous forest, old growth	A	Not Expected: no suitable habitat observed within Study Area.
Bank swallow	*Riparia riparia*	ST	Riparian scrub, riparian woodland. Vertical banks	A	Not Expected: no suitable habitat observed within Study Area.
Black swift	*Cypseloides niger*	---/SSC	Cliffs, arroyos and canyons, coasts, and shorelines	A	Not Expected: no suitable habitat observed within Study Area.
Burrowing owl	*Athene cunicularia*	SCE	Coastal prairie, coastal shrub, valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
California black rail	*Laterallus jamaicensis coturniculus*	ST	Brackish marsh, freshwater marsh, swamp, wetland	A	Not Expected: no suitable habitat observed within Study Area.
California condor	*Gymnogyps californianus*	FE	Rocky cliffs for nesting/roosting, grasslands	A	Not Expected: no suitable habitat observed within Study Area.
California least tern	*Sternula antillarum browni*	FE	Nests near beaches close to river mouths, estuaries, and coastal embayments	A	Not Expected: no suitable habitat observed within Study Area.
Golden eagle	*Aquila chrysaetos*	---/FP	Broadleaf upland forest, cismontane woodland,	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
			Coastal prairie, pinon & juniper woodlands		
Least Bell's vireo	*Vireo bellii pusillus*	FE	Willow-dominated riparian woodlands, oak woodlands and chaparral	A	Not Expected: no suitable habitat observed within Study Area.
Marbled murrelet	*Brachyramphus marmoratus*	FT/SE	Majority of time on the ocean, forage areas near shore. Nests in old-growth forests	A	Not Expected: no suitable habitat observed within Study Area.
Purple martin	*Progne subis*	---/SSC	Broadleaf upland forest, lower montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	---/SSC	Marsh & swamp	A	Not Expected: no suitable habitat observed within Study Area.
Tricolored blackbird	*Agelaius tricolor*	---/SSC	Freshwater swamp, marsh, wetland	A	Not Expected: no suitable habitat observed within Study Area.
Western snowy plover	*Anarhynchus nivosus nivosus*	FT	Great basin standing waters, sand shore, wetland	A	Not Expected: no suitable habitat observed within Study Area.
White-tailed kite	*Elanus leucurus*	---/FP	Cismontane woodland, marsh & swamp, riparian woodland, wetland	A	Not Expected: no suitable habitat observed within Study Area.
Yellow-billed Cuckoo	*Coccyzus americanus*	FT	Wooded habitat with dense cover and water nearby, , thickets along streams and marshes	A	Not Expected: no suitable habitat observed within Study Area.
Yellow rail	*Coturnicops noveboracensis*	---/SSC	Freshwater marsh, meadows & seep	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Reptiles					
Northwestern pond turtle	*Actinemys marmorata*	PT	Streams, ponds, lakes, ephemeral wetlands, and terrestrial habitats for nesting	A	Not expected: no suitable habitat observed within Study Area.
San Francisco garter snake	*Thamnophis sirtalis tetrataenia*	FE	Aquatic and freshwater habitat, ponds, creeks, marshes, canals. Grassy areas near water, underground rodent burrows or rocks	A	Not expected: no suitable habitat observed within Study Area.
Amphibians					
California red-legged Frog	*Rana draytonii*	FT	Streams, marshes, estuaries, and ponds with still water for breeding. Upland areas for food and shelter when stream flow levels are high.	HP	Low: Riparian habitat and connectivity adjacent to Study Area; temporary pooling seasonally.
California tiger salamander	*Ambystoma californiense pop.1*	FT/ST	Cismontane woodland, meadow & seep, riparian woodland, valley and foothill grassland, vernal pool, wetlands	A	Not expected: no suitable breeding habitat observed within Study Area.
Foothill yellow-legged frog	*Rana boylii*	FT	Foothill mountain streams, valley-foothill riparian, mixed conifer, chaparral, and wet meadows	A	Not expected: no suitable breeding habitat observed within Study Area.
Santa Cruz black salamander	*Aneides niger*	---/SSC	Shallow standing seeps, wetland, creeks	A	Not expected: no suitable breeding habitat observed within Study Area
Santa Cruz long-toed salamander	*Ambystoma macrodactylum corceum*	FE/SE	Freshwater marsh, swamp, wetland. Breeds in freshwater marshes	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Mammals					
American badger	*Taxidea taxus*	---/SSC	Alkali marsh, alpine, brackish marsh, broadleaf upland forest, cismontane woodland	A	Not Expected: no suitable habitat observed within Study Area.
Pallid bat	*Antrozous pallidus*	---/SSC	Chaparral, coastal shrub, desert wash, riparian woodland, upper montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Townsend's big-eared bat	*Corynorhinus townsendii*	---/SSC	Broadleaf upland forest, chaparral, Joshua tree woodland, lower montane coniferous forest, riparian forest	A	Not Expected: no suitable habitat observed within Study Area.
San Francisco dusky-footed woodrat	*Neotoma fuscipes annectens*	---/SSC	Chaparral, Redwood	HP	Present within Study Area.
Fishes					
Coho Salmon Central CA Coast ESU		FE/SE	Aquatic	A	None. No suitable habitat within Study Area.
Eulachon	*Thaleichlthys pacificus*	FT	Aquatic, flowing waters	A	None. No suitable habitat within Study Area.
Steelhead - Central CA Coast DPS		FT	Aquatic, flowing waters	A	None. No suitable habitat within Study Area.
Tidewater goby	*Eucyclogobius newberryi*	FE	Aquatic, flowing waters	A	None. No suitable habitat within Study Area.
Invertebrates					
Crotch's bumblebee	*Bombus crotchii*	SCE	Undisturbed soils, rodent burrows, native bunchgrass structure	A	Not Expected: no suitable habitat observed within Study Area.
Western bumblebee	*Bombus occidentalis*	SCE	Undisturbed soils, rodent burrows, native bunchgrass structure	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Monarch butterfly	*Danaus plexippus*	PT	Uses milkweed for breeding, dense eucalyptus, Monterey pine	A	Not Expected: no suitable habitat observed within Study Area.
Mount Hermon june beetle	*Polyphylla barbata*	FE	Chaparral and ponderosa pine with Zayante sandy soils, interior dunes	A	Not Expected: no suitable habitat observed within Study Area.
Ohlone tiger beetle	*Cicindela ohlone*	FE	Coastal prairie, sparse vegetation and openings	A	Not Expected: no suitable habitat observed within Study Area.
Smith's blue butterfly	*Euphilotes enoptes smithi*	FE	Coastal dunes, coastal shrub	A	Not Expected: no suitable habitat observed within Study Area.
Zayante band-winged grasshopper	*Trimerotropis infantilis*	FE	Openings in sand hills parkland habitat with Zayante sandy soils	A	Not Expected: no suitable habitat observed within Study Area.

Table 3.4-3. Migratory Bird Species

Common Name	Scientific Name	Status	Breeding Season
Allen's hummingbird	*Selasphorus sasin*	BCC	Feb 1 - July 15
Bald eagle	*Haliaeetus leucocephalus*	N/A	Jan 1 - Aug 1
Belding's Savannah sparrow	*Passerculus sandwichensis beldingi*	BCC	Apr 1 - Aug 15
Bullock's oriole	*Icterus bullockii*	BCC	Mar 21 - Jul 25
California gull	*Larus californicus*	BCC	Mar 1 - Jul 31
California thrasher	*Toxostoma redivivum*	BCC	Jan 1 - Jul 31
Common yellowthroat	*Geothlypis trichas sinuosa*	BCC	May 20 - Jul 31
Golden eagle	*Aquila chrysaetos*	N/A	Jan 1 - Aug 31
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Mar 20 - Sept 20
Northern harrier	*Circus hudsonius*	BCC	Apr 1 - Sept 15
Nuttall's woodpecker	*Dryobates nuttallii*	BCC	Apr 1 - Jul 20
Oak titmouse	*Baeolophus inornatus*	BCC	Mar 15 - Jul 15
Olive-sided flycatcher	*Contopus cooperi*	BCC	May 20 - Aug 21
Santa Barbara song sparrow	*Melospiza melodia graminea*	BCC	Mar 1 - Sept 5
Tricolored blackbird	*Agelaius tricolor*	BCC	Mar 15 - Aug 10
Western gull	*Larus occidentalis*	BCC	Apr 21 - Aug 25
Western screech-owl	*Megascops kennicottii cardonensis*	BCC	Mar 1 - Jun 30
Willet	*Tringa semipalmata*	BCC	Elsewhere: N/A
Wrentit	*Chamaea fasciata*	BCC	Mar 15 - Aug 10

Less than Significant Impact with Mitigation. The biological assessment identified the potential for the project to affect common wildlife, nesting birds protected under the Migratory Bird Treaty Act (Table 3.4-3), San Francisco dusky-footed woodrats (Table 3.4-2), and certain special-status plant species (Table 3.4-1). Four special-status plant species were identified as having low potential to occur within the Study Area: San Francisco popcornflower, marsh microseris, Santa Cruz tarplant, and deceiving sedge. Although suitable habitat for these species is present in portions of the site, known occurrences are generally located more than three miles from the Study Area, with the exception of deceiving sedge, for which the nearest known observation is at Camp Evers Bog in Scotts Valley. Based on the habitat conditions present within the Study Area,

the distribution of known occurrences, and the species' dispersal characteristics, the biological assessment concludes that these species have low potential to occur within the Study Area. The dispersal characteristics of these species also generally limit the likelihood of long-distance establishment from known populations. Marsh microseris is primarily wind-dispersed, while Santa Cruz tar plant is primarily dispersed locally through gravity. Deceiving sedge primarily spreads vegetatively through rhizomes, with wind and water providing secondary dispersal mechanisms. Although bird-mediated dispersal has been proposed as a possible mechanism for the broader distribution of San Francisco popcorn flower, such dispersal does not necessarily indicate that viable seeds would be transported, deposited, and successfully germinate and establish several miles from an existing population. Accordingly, the absence of nearby documented occurrences, together with the species-specific dispersal mechanisms and habitat characteristics, supports the biological assessment's determination of low potential for occurrence within the Study Area.Additionally, the project footprint has been designed to avoid needlegrass grassland and rush-sedge meadow, which provide the highest potential habitat for the special-status plant species identified in the biological assessment. The project would also avoid areas considered suitable for California red-legged frog breeding and would not directly affect aquatic habitat. Therefore, impacts to special-status plants and California red-legged frog are not anticipated.

The project would involve vegetation removal, ground disturbance, and temporary construction activities that could temporarily displace common wildlife. These species are regionally abundant, and suitable habitat for foraging, cover, and dispersal is available in the surrounding area; therefore, impacts to common wildlife would not be significant.

The implementation of Mitigation Measure BIO-1, in coordination with their construction contractor and qualified biologists, to protect sensitive natural communities during construction by identifying areas to be avoided and/or protected and marking all sensitive habitats in the field; designated staging, access, and work areas to minimize the construction footprint and avoid sensitive habitats; and minimizing the removal and disturbance of native vegetation would reduce the impact of construction to a less than significant level.

Three potentially active San Francisco dusky-footed woodrat nests were identified within the Study Area. Prior to construction and vegetation removal, a qualified biologist shall evaluate the nests to determine whether they are active. Active nests shall be avoided with an appropriate no-disturbance buffer, as determined by the qualified biologist, and additional avoidance, minimization, or mitigation measures shall be implemented as necessary. General best practice is to avoid disturbance within 25 feet of active nests, with a minimum of 10 feet required. These measures would reduce potential impacts to San Francisco dusky-footed woodrats to a less-than-significant level.

Implementation of Mitigation Measure BIO-2, which requires installation of an appropriate no-disturbance buffer around active woodrat nests, as determined by a qualified biologist prior to construction and vegetation removal, would reduce the impact to a less-than-significant level by protecting woodrat habitat. Vegetation within the project footprint may also provide nesting habitat for native birds, protected by the Migratory Bird Treaty Act. Although no active nests were observed during the biological survey on January 8, 2026, which is outside of the nesting season for birds, construction and vegetation removal during the nesting season could result in the disturbance or loss of active nests. Implementation of Mitigation Measure(s) BIO-3 to obtain preconstruction nesting bird surveys and appropriate avoidance buffers around any detected active nests during the breeding season would reduce this potential impact to a less-than-significant level.

- Mitigation Measure(s) BIO-**1**: Protect Sensitive Natural Communities During Construction.
- Mitigation Measure(s) BIO-**2**: Protect Active Woodrat Nests.
- Mitigation Measure(s) BIO-**3**: Avoid Impacts on Nesting Birds.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation. The project site contains several vegetation communities, including oak woodland and needlegrass grassland, which were identified as sensitive biological resources (Figure 3.1). Oak woodland is considered Sensitive Habitat under the Santa Cruz County Sensitive Habitat Protection Ordinance (SCCC Chapter 16.32), while needlegrass grassland has state and global rarity rankings. The current project footprint was developed to minimize impacts to sensitive resources and would avoid impacts to needlegrass grassland and rush-sedge meadow. The majority of the proposed solar array would be located within French broom thicket/coyote brush scrub, which the Biotic Report (Appendix A) identified as the least sensitive vegetation community on the site due to its substantial coverage by invasive, nonnative French broom and lack of suitable habitat for sensitive species.

The project would, however, result in impacts to approximately 0.5 acre of oak woodland, and removal of up to 5 significant oak trees within the solar array footprint may be unavoidable. The Biotic Report recommends a follow-up inventory of oak trees within the final project footprint, including GPS locations and diameter-at-breast-height measurements prior to construction. To address unavoidable impacts, the Biotic Report recommends revegetation of native trees at appropriate mitigation ratios consistent with County requirements, including revegetation of oak

trees in areas currently occupied by nonnative Acacia, particularly in the northeast portion of the property (See Figure 3-1. Biological Resources Map).

No potentially jurisdictional wetlands or other Waters of the United States were identified within the Study Area, and previous wetland delineations similarly did not identify features meeting applicable federal wetland criteria. Although riparian vegetation and seasonal pooling occur in areas adjacent to the project footprint, the Study Area itself consists primarily of upland habitat and does not contain ponds, wetlands, or other aquatic features suitable for breeding.

With implementation of the recommended oak woodland replacement inventory, avoidance and minimization measures, and habitat restoration/mitigation consistent with SCCC Chapter 16.32, impacts to sensitive natural communities would be reduced to a less-than-significant level. The project would not result in impacts to the site's needlegrass grassland or rush-sedge meadow, and the selected project footprint represents the alternative identified by the Biotic Report as preferable to an alternative that would affect the more difficult-to-restore needlegrass grassland.

- Mitigation Measure(s) BIO-**4**: Replacement Oak Trees.

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

No Impact. There are no mapped or designated aquatic features in or adjacent to the project site. Therefore, there would be no impact.

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

Less Than Significant. Construction would result in temporary vegetation removal, ground disturbance, and construction noise that could temporarily displace wildlife from portions of the site. However, the project would not substantially interfere with regional wildlife movement because substantial areas of vegetation and habitat would remain available within the Study Area and surrounding undeveloped areas. No established wildlife corridor or nursery site was identified within the project footprint. Potential impacts to nesting birds and woodrats would be addressed through the preconstruction surveys and avoidance measures described above. The impact would be less than significant. No mitigation is required.

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

Less Than Significant with Mitigation. The project would result in impacts to approximately 0.5 acre of oak woodland, which is identified as Sensitive Habitat under Santa Cruz County Code Chapter 16.32. A preconstruction oak tree inventory shall be conducted within the final project footprint, and oak woodland impacts shall be avoided and minimized to the extent feasible. Mitigation/restoration shall be provided consistent with applicable County requirements. With implementation of these measures, the project would not conflict with applicable County policies or ordinances protecting biological resources. Therefore, the impact would be less than significant with mitigation.

- Mitigation Measure(s) BIO-**4**: Replacement Oak Trees.

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

No Impact. There are no adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans that apply to the project site. Therefore, there is no potential for the project to conflict with them. No impact would occur.

3.4.3 Mitigation Measures

The following mitigation is required as part of the project to ensure that potentially significant impacts on biological resources are mitigated to a less than significant level:

BIO-1: **Protect Sensitive Natural Communities During Construction**. The project proponent, in coordination with their construction contractor and qualified biologists, shall implement the following measures to protect sensitive natural communities during construction:

- Stage equipment in ruderal and/or developed areas.
- Confine project activities and operation of equipment and vehicles, including site access and parking, to designated staging, access, and work areas to minimize the construction footprint and avoid sensitive habitats.
- Prior to initiation of project activities, a qualified biologist shall identify the areas to be avoided and/or protected and shall mark sensitive habitats in the field.
- Prior to construction activities a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) or training to educate on-site workers about critical environmental concerns associated with the project.

- Minimize removal and disturbance of native vegetation, and implement the following when disturbance to native vegetation is required:
    - Limbing of native trees and cutting (above the ground) of shrubs shall be favored in lieu of removal. Stumps of native vegetation shall be retained to allow for re-sprouting following project completion where vegetation will not interfere with the project features.
    - Native understory plants shall be maintained to the extent feasible. Workers shall not grub within sensitive habitat types unless no other alternative exists.
- Preserve native edge habitats wherever feasible.
- The project proponent, in coordination with their construction contractor and a qualified biologist, shall remove invasive non-native plants from the work area as designated by California Invasive Plant Council (2025) as having "high" potential for "severe ecological impacts on physical processes, plant and animal communities, and vegetation structure."

BIO-2: **Protect Active Woodrat Nests.** Prior to construction activities, active nests shall be avoided with an appropriate no-disturbance buffer, as determined by a qualified biologist. Protection shall adhere to best practices established by CDFW.

BIO-3: **Avoid Impacts on Nesting Birds.** The project proponent or their construction contractor shall schedule construction outside the breeding bird season or conduct pre-construction nesting bird surveys. Typically, the bird breeding season occurs between February 1 and August 31 with some species (e.g., hummingbirds and owls) potentially nesting outside this period.

If feasible, perform vegetation removal activities outside the breeding bird season (ideally between September 1 and October 15) to avoid direct harm or mortality to potential nesting bird species and other sensitive biological resources.

For all project activities initiated during the breeding bird season, or if construction activities lapse for a period of 1 week or more during breeding bird season, a qualified biologist shall conduct a breeding bird survey for nesting birds, including raptors. Surveys shall be conducted within 7 days, prior to beginning construction activities and shall include all work, staging,

access areas, and a minimum survey radius surrounding the work area, where accessible, as follows:

- 250 feet for non-raptors
- 500 feet for small raptors, such as accipiters
- 1,000 feet for larger raptors, such as buteos

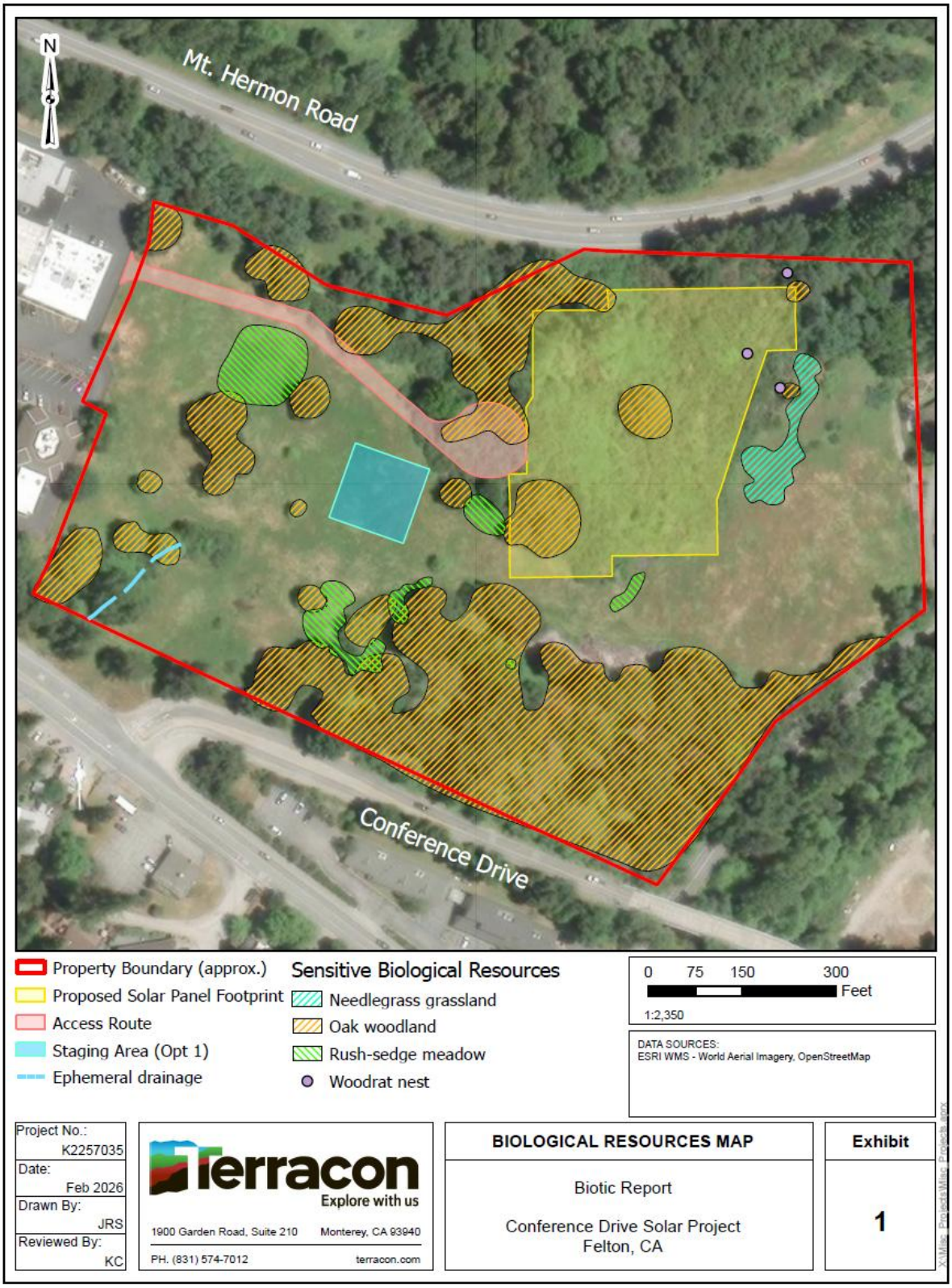
The survey shall include potential habitat for raptors, sensitive, and common nesting bird species and shall include trees, other vegetation, and suitable habitat (buildings, equipment, ruderal areas, brush piles, gravel, rocks) for ground-nesting and opportunistic species (e.g., house finch, California towhee, dark-eyed junco, and/or kildeer). The following measures shall be implemented based on the survey results:

- If no nesting sensitive or common bird species are observed during breeding bird surveys, no additional measures would be required.
- If common nesting birds are observed in or adjacent to the project site, activities shall be postponed until young have fledged to avoid direct harm or mortality of nesting birds and/or buffers appropriate to the species shall be established, such as protective buffers recommended in PG&E et al. (2015). The size of the buffer would also depend on the location of the nest relative to the project site, project activities proposed for this location, and other project-specific conditions (e.g., equipment operation).
- Sensitive bird species, if nesting in or near the project site, will be given special consideration and may require additional protective measures as determined through consultation with the relevant agency (U.S. Fish and Wildlife Service or California Department of Fish and Wildlife), such as protective buffers recommended in PG&E et al. (2015).
- A qualified biologist shall monitor active nest sites for construction-related disturbances and adjust protective buffers as necessary to prevent disruption of nesting activities.
- No construction activity shall be allowed within the buffer until the qualified biologist determines that the nest is no longer active or monitoring determines that a smaller buffer shall protect the active nest. The buffer may be reduced if the qualified biologist monitors the construction activities and determines that no disturbance to the active nest is occurring.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the previously listed measures shall be implemented to ensure construction does not disturb the nest.

BIO-4: **Replacement Oak Trees**. The proposed removal of 5 oak trees (45″, 32″, 31″, 26″ and 22″ diameter at breast height) will result in a required replanting and maintenance/monitoring of 45 oak trees. A restoration plan that identifies the location of mitigation plantings with a maintenance and five-year monitoring plan prepared by a qualified biologist will be required.

- The tree replacement mitigation ratio, due to size of trees proposed for removal and anticipated mortality, shall be as follows:
  - Trees between 12- and 23.5-inches DBH shall be replaced at 5:1;
  - Trees 24 inches or greater DBH shall be replaced at 10:1.

Figure 3-1. Biological Resources Map



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3.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.5.1 Existing Conditions

A Cultural Resource Evaluation was conducted on this site in 2013 (Archaeological Resource Management, March 18, 2013). Research on this parcel included an archival background and surface survey of the project parcel.

Efforts to identify cultural resources in the project area included conducting a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), reviewing listings in the California Register of Historic Resources (CRHR), and performing a surface survey of the site. The methods and results of these efforts are described in detail in the Cultural Resource Evaluation conducted by Archaeological Resource Management, March 18, 2013.

The records search identified zero previously recorded resource(s) in the project area and nine previously recorded resources within a 1/2-mile radius of the project area. All nine of these recorded resources are historic structures, which include the Felton Covered Bridge (CA-SCR-207H) and the Felton Presbyterian Church (CA-SCR-208H).

3.5.2 Impact Analysis

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

No Impact. There are no built environment resources that would be more than 50 years of age at the time of project implementation within the project site. Therefore, there would be no impact.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant Impact. No archaeological resources that meet the criteria for significance have been identified in the project site. However, the project involves ground-disturbing activities that could uncover previously unknown archaeological resources. If such resources are found and determined to be significant, they would be considered archaeological resources under CEQA Guidelines, Section 15064.5. These construction activities include pile driving to set posts for solar panel support.

Pursuant to Santa Cruz County Code, Section 16.40.040, if at any time in the preparation for or process of excavating or otherwise disturbing the ground or any artifact or other evidence of a Native American cultural site that reasonably appears to exceed 100 years of age is discovered, the responsible persons shall immediately cease and desist all further site excavation and notify the County planning director, who will arrange for the inspection, evaluation, and proper treatment of the find. With the implementation of this required process, the impact would be less than significant. No mitigation is required.

c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. The project site does not include a formal cemetery or any known archaeological resources that might contain interred human remains. However, it is always possible that previously undiscovered human remains may be discovered during excavation associated with construction.

Pursuant to County Code, Section 16.40.040, and California Health and Safety Code, Sections 7050.5–7054, if human remains are discovered at any time during site preparation, excavation, or other ground disturbance associated with the project, the responsible people shall immediately cease and desist any further site excavation and notify the County sheriff, coroner, and planning director.

If the coroner determines that the remains are not of recent origin, a full archaeological report shall be prepared, and representatives of local Native American groups shall be contacted. If it is determined that the remains are Native American, the California Native American Heritage Commission shall be notified within 24 hours as required by law. The California Native American Heritage Commission will contact the most likely descendant, who shall be authorized to provide recommendations for the management of the Native American human remains. Pursuant to California Public Resources Code, Section 5097, the most likely descendant shall complete their

inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site.

Work in the area of the find shall not resume until the appropriate treatment and disposition of the remains and associated artifacts have been determined and implemented to the extent that no further damage or disturbance to the remains and artifacts will occur. With these required processes in place, the impact would be less than significant. No mitigation is required.

Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.6 Energy

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.6.1 Existing Conditions

The County is in the service area for Central Coast Community Energy (CCCE), which currently provides at least 35 percent of electricity from renewable resources to customers with a goal of providing 100 percent renewable energy to customers by 2030. A CCCE Prime option that provides 100 percent of electricity from renewable resources is available to customers (3CE 2023).

Development is subject to California Code of Regulations, Title 24, Part 6 (also referred to as the California Energy Code), which provides energy efficiency standards for residential and non-residential buildings. California's building efficiency standards are updated approximately every 3 years. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficient technologies and methods. California Code of Regulations, Title 24, Part 11, California Green Building Standards Code (CALGreen), is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went into effect on August 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2025 California Green Building Code Standards, which took effect on January 1, 2026.

The County's Climate Action and Adaptation Plan (CAAP), approved in 2022, strives to meet the state Senate Bill 32 target of reducing greenhouse gas emissions by 40 percent below 1990 levels before 2030 while simultaneously establishing a policy framework to achieve the longer-term target of net-negative greenhouse gas emissions by 2045 (Assembly Bill [AB] 1279). The 2022 CAAP includes 29 strategies across seven sectors to achieve these goals, including reducing energy use. Energy strategies focus on eliminating fossil fuel use in new and existing buildings and existing municipal facilities, achieving 100 percent clean energy provided by the CCCE, and

developing microgrids. Transportation strategies would also lessen fuel use by reducing vehicle miles traveled, eliminating fossil fuels in the County vehicle fleet, and increasing the use of public transportation and pedestrian and bicycle facilities.

The County's General Plan/Local Coastal Program (LCP) includes objectives and policies that would reduce community energy use by encouraging decreased use of resources, including fuel and energy. For example, Built Environment Element Objective BE-4.2 encourages building and site designs that conserve energy. It is supported by Policy BE-4.2.7, Energy Conservation, which encourages development to enable passive solar heating and lighting through building location, orientation, and massing wherever practicable. Further energy conservation is encouraged through energy-efficient building envelopes; lighting; heating, cooling, and ventilation systems; and renewable energy design components (Santa Cruz County 2024).

3.6.2 Impact Analysis

a. Would the project 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. The project, like all development, would be responsible for an incremental increase in the consumption of energy resources during site grading for the access road, on-site construction equipment, materials processing, foundation installation, and panel assembly. All project construction equipment would be required to comply with the CARB emissions requirements for construction equipment, which includes measures to reduce fuel consumption, such as imposing limits on idling and requiring older engines and equipment to be retired, replaced, or repowered. The project would require typical construction practices and would not include components that would result in wasteful or inefficient use of energy during construction. The project would not be implemented without the use of standard construction equipment and vehicles. Therefore, energy use would be necessary. As a result, impacts associated with the temporary increase in consumption of fuel during construction are expected to be less than significant.

The 2022 CAAP includes strategies related to energy use, with a focus on eliminating fossil fuel use in new and existing buildings, as well as in existing municipal facilities. AB 130 limits the County's ability to require building electrification; however, electrification is still encouraged (California Health and Safety Code, Section 17958(b)(5), allows certain modifications to building codes that incentivize all-electric construction). The project would be consistent with this 2022 CAAP strategy and would not include new natural gas use. Therefore, impacts related to natural gas would be less than significant.

The project would comply with all applicable energy efficiency standards, such as the California Green Building Standards. The project involves the conversion of solar energy into AC electricity that would not result in a new increase in energy use compared to existing conditions. Conversely, the addition of a solar array would reduce the environmental impact of electricity use by displacing fossil fuel-based electricity, reducing greenhouse gas emissions, and lowering existing grid dependence. No impacts are expected from project implementation. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources.

Regarding fuel use, as discussed in Section 3.17, Transportation, the project would result in a less than significant impact related to vehicle miles traveled. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of vehicle fuel resources. Impacts related to operational energy use would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The project would not require a net increase in fossil fuel, electricity, or natural gas consumption during construction or operation. The project is in line with state and local plans for renewable energy and energy efficiency by proposing a micro-grid powered by solar energy. California seeks to supply 100 percent of retail electricity sales with renewable and zero-carbon sources by 2045. The project would have no impact related to plans for renewable energy or energy efficiency.

3.6.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

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

3.7.1 Existing Conditions

The 8.8-acre site is located at the intersection of Conference Drive and East Zayante Road in Felton, California. The undeveloped site is bordered by East Zayante Road and Conference Drive to the south, Mount Herman Road to the north, single family residences to the east and undeveloped land to the west.

A geotechnical report was completed by Dees & Associates in August 2024. The study included a site survey accompanied by data analysis about the site and region, an exploration of site subsurface conditions with tested soil samples, and an engineering analysis.

The Santa Cruz County Geologic Map indicates the site is underlain by both Alluvial deposits, undifferentiated (Holocene) and Monterey Formation (Middle Miocene). Alluvial deposits are described as "Unconsolidated, heterogeneous, moderately sorted silt and sand containing discontinuous lenses of clay and silty clay. Locally includes large amounts of gravel". The Monterey Formation is described as, "Medium to thick-bedded and laminated olive-gray to light-gray semi-siliceous organic mudstone and sandy siltstone".

The site is located in a highly seismic region near several major fault zones. The property wraps around the southern nose of a north south trending ridgeline and the topography generally consists of a moderately sloping ridgeline with steep side slopes that becomes less steep as you move to the south until the slopes are nearly flat as you approach Conference Drive. The project consists of installing a solar array that wraps around the nose of the ridge.

The following information is based on Geotechnical Investigation for Proposed Solar Array prepared by Dees & Associates, Inc., in August, 2024 (Appendix B).

3.7.2 Impact Analysis

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

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

Less than Significant Impact. The project is located within an area with substantial evidence of a known fault (Ben Lomond fault); however, the project does not include a structure intended for human occupancy and therefore the proposed solar array is not regulated by the Alquist-Priolo Earthquake Fault Zoning Act, California Government Code sections § 2621.5 (b), § 2621.6 (a). The proposed solar array does not include any habitable structures and will require minimal maintenance. Therefore, impacts from the exposure of people or structures to a known fault rupture hazard zone as a result of the project would be less than significant. No mitigation is required.

ii. Strong seismic ground shaking?

Less than Significant Impact. The project site is located outside the limits of any County-mapped fault zone (County of Santa Cruz GIS Mapping). The project site is located approximately 9.5 miles south of the San Andreas fault zone and adjacent to the Ben Lomond Fault zone. The project site is likely to be subject to strong seismic ground shaking during the life of the improvements, although the potential for ground surface rupture is low. The project would be subject to the California Building Code (CBC) seismic design force standards (2025 California Building Code Volumes 1 and 2, Title 24, Part 2 1603 A .1.5 Earthquake design data.) to ensure the stability of project elements and reduce potential impacts caused by seismic ground shaking. Therefore, the impact would be less than significant. No mitigation is required.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. The project is proposed to be located near an area mapped by the County's Geographic Information System (GIS) as moderately susceptible to liquefaction. The Geotechnical Report prepared by Dees & Associates, Inc. (Appendix B) determined that the project's on-site conditions are not susceptible to settlement and liquefaction. Liquefaction occurs when saturated fine-grained sands, silts and sensitive clays are subject to shaking during an earthquake and the water pressure within the pores build up leading to loss of strength. The soils

below the groundwater table were dense and have a low potential for liquefaction. Impacts would be less than significant. No mitigation is required.

iv. Landslides?

No Impact. The project site is not within a landslide susceptibility area per the County of Santa Cruz GIS Landslide Map. The slope where the solar array is proposed is inclined up to approximately 35 percent and is generally comprised of stiff sandy clay and clayey sand over mudstone bedrock. There were no landslides observed during the geotechnical investigation, and none were reported. There appears to be low potential for landslides to affect the proposed solar array based on the density and strength of the soils comprising the slope and the lack of existing landslides at the site and vicinity. Therefore, the project would not expose people or structures to potential substantial adverse effects involving landslides. There would be no impact.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The proposed project includes the creation of a new gravel roadway to access this site from the adjacent parcel (APN 071-331-05) to the west. This new road would follow the topography of the site and require minimal grading. Project construction activities would expose soils to potential short-term erosion by wind and water. Prior to approval of a grading or building permit, the application submittal shall demonstrate compliance with the County Design Criteria (CDC). Pre-development runoff patterns and rates shall be maintained, and safe stormwater overflow shall be incorporated into the project design. Per Part 3, Definitions Section C of the CDC, photovoltaic systems located over pervious surfaces with well-maintained grass or vegetated groundcover or panel arrays with a buffer strip at the most down gradient row of panels are not considered development. Therefore, the project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant. No mitigation is required.

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

No Impact. The project is not located on a geologic unit or soil that is unstable (Appendix B). Furthermore, the project proposes minimal grading or alteration of land. Therefore, the project would not produce unstable geological conditions. There would be no impact.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact. The project does not contain expansive soils as defined by Table 18-I-B of the Uniform Building Code (1994). Additionally, the Geotechnical Report (Appendix B) did not identify any elevated risk. There would be no impact.

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

No Impact. The project includes new construction of ground-mounted solar panels. The project does not propose any septic tanks or alternative wastewater disposal systems because no wastewater would be generated. There would be no impact.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. No unique paleontological resources or sites or unique geologic features are known to occur within the vicinity of the project site. A review was conducted of the County of Santa Cruz Planning Department's mapping of identified geologic and paleontological resources, and no such resources are recorded within the vicinity of the project parcel. The project site does not overlay any paleontologically sensitive formations, and excavation conducted during construction would not be deep enough to reach paleontologically sensitive formations. There would be no impact.

3.7.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

3.8.1 Existing Conditions

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). They are naturally present in the atmosphere and are released by natural sources or formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), and fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6). Water vapor is excluded from the list because it is short lived in the atmosphere, and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. The project does not propose new sources of fluorinated gases, and these gases are not included in the following analysis.

Different types of GHGs have varying global warming potential (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). The carbon dioxide equivalent (CO_2e) metric is a consistent methodology used for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure. CO_2e is the amount of a GHG emitted multiplied by its GWP. CO_2 has a GWP of 1. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule-per-molecule basis. Therefore, 1 metric ton (MT) of CH_4 is equal to 25 MT CO_2e. The GWP of N_2O is approximately 298 times that of CO_2.

An inventory of GHG emissions in the County was prepared as part of the 2022 CAAP. In 2019, total emissions for community activities were approximately 691,262 MT CO_2e. The 2019 inventory indicates that 51 percent of the community emissions were generated by passenger

vehicles (County of Santa Cruz 2022). Residential natural gas was the second largest contributor, with approximately 16 percent of community emissions.

California has adopted several statewide GHG emissions reduction targets. In September 2006, the California Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 identified a target of reducing statewide GHG emissions to 1990 levels by 2020. Senate Bill 32, effective January 1, 2017, requires California, by the year 2030, to reduce its statewide GHG emissions to 40 percent below 1990 emissions. Most recently, enacted in September 2022, AB 1279, the California Climate Crisis Act, established a statewide goal to achieve net-zero GHG emissions by 2045 and to achieve and maintain net-negative GHG emissions thereafter. Additionally, the bill established a specific target for statewide anthropogenic GHG emissions to be reduced to at least 85 percent below 1990 levels by 2045. The bill requires CARB to collaborate with relevant state agencies to ensure that updates to the Scoping Plan identify and recommend measures to achieve these policy goals. Additionally, it requires CARB to identify and implement a variety of policies and strategies that enable CO_2 removal solutions and carbon capture, use, and storage technologies in California, as specified. The bill also requires CARB to submit an annual progress report. The CARB 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 (CARB 2022).

The County's CAAP, approved in 2022, strives to meet the SB 32 target of reducing GHG emissions by 40 percent below 1990 levels before 2030 while simultaneously establishing a policy framework to achieve the longer-term target of net-negative GHG emissions by 2045 (AB 1279). The 2022 CAAP includes 29 strategies across seven sectors to achieve these goals. Priorities include eliminating fossil fuel use in new buildings and reducing VMT.

Several elements of the County General Plan/LCP include objectives and policies that would reduce community GHG emissions by encouraging reduced use of resources, including fuel, energy, and water. The County General Plan/LCP was updated as part of the County's Sustainability Update to make the County General Plan and County Code consistent with new state laws and new regional and local plans related to sustainable development. This proposal is inline with these objectives. The microgrid is a zero-emission electricity source, and the project will result in a substantial net decrease in GHG emissions by serving as an alternative source for fossil-fuel based power.

3.8.2 Impact Analysis

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

No Impact. Project construction activities could result in a small, temporary increase in GHG emissions, including exhaust emissions from installation equipment, on-road trucks, or worker commute vehicles, however this negligible percentage of construction-related GHG emissions, would be outweighed by the substantial net overall reduction in GHG emissions represented by the project, and therefore it can be concluded that the project would have no impact related to GHG emissions.

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

No Impact. The project would not require the use of fossil fuel-powered construction equipment, or result in any direct or indirect increase in GHG emissions during operation. The microgrid is a zero-emission electricity source, and the project will result in a substantial net decrease in GHG emissions by serving as an alternative source for fossil-fuel based power. This project directly aligns with federal, state, and local plans that aim to reduce GHG emissions through alternative power supplies.

3.80.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.9 Hazards and Hazardous Materials

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

3.9.1 Existing Conditions

No hazards and hazardous materials have been located in or near the project site, pursuant to the California Department of Toxic Substances Control's Cortese List. An onsite storage (battery) system has not been proposed and there are no underground storage tanks on this parcel. The nearest airport (Watsonville) is 21 miles from the project site.

This proposed solar array will incorporate panels made primarily of glass and aluminum coated with a semi-conductor material, then sealed with ethylene-vinyl-acetate of that is non-flammable and insoluble to water. The expected useable lifespan of the panels is at least 25 years. After decommissioning, panels can be recycled or safely disposed of in a sanitary landfill. If solar panels are damaged or disposed of improperly, the encapsulant will continue to trap toxicants and prevent them from contaminating soil and groundwater.

3.9.2 Impact Analysis

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

Less than Significant Impact with Mitigation.

Once constructed, this project would be tied to the existing grid and not have an independent energy storage system (batteries) on site, however a photovoltaic system is an electric system that can retain a residual charge (stray voltage) even when the grid connection is off and may inadvertently shock wildlife if contact is made between two points. This would be a significant impact.

Implementation of Mitigation Measure(s) HAZ-1 to construct a six-foot tall perimeter chain-link fence to protect wildlife (and humans) by keeping them safely away from the solar array, which will reduce the impact to a less than significant level. Therefore, the impact would be less than significant with mitigation.

- Mitigation Measure(s) HAZ-**1**: Six-foot tall chain link fence around the perimeter of the proposed solar array.

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

No Impact. The project would not create a significant hazard to the public or the environment because it does not propose the storage, use, transport, emission, or disposal of hazardous

substances and because hazardous substances are neither proposed nor currently in use within the immediate vicinity. Therefore, there is no potential for the accidental release of hazardous materials. There would be no impact.

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

No Impact. The project is not located within one-quarter mile of an existing or proposed school. Therefore, the project will not have an effect on an existing or proposed school. The St. Lawrence Academy is located at 6184 Highway 9, Felton, approximately .3 miles to the west of the project site. There would be no impact.

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

No Impact. The project site is not included on the list of hazardous sites in Santa Cruz County compiled pursuant to California Government Code, Section 65962.5 Department of Toxic Substances Control, Hazardous Waste and Substances Site List (Cortese List). There would be 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. The project is located within 21 miles of the Watsonville Municipal Airport and is not located within its approved airport land use plan. Therefore, the project would not result in a safety hazard or excessive noise for people residing or working in the project area. There would be no impact.

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

Less than Significant Impact. The project would not be located in a mapped Fire Hazard area (GIS), but it would be adjacent to wildlands that have the potential to support wildland fires. However, the project design incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency. In addition, the project would be

required to meet the General Plan policies related to fire resilience and access. Therefore, the impact would be less than significant. No mitigation is required.

3.9.3 Mitigation Measures

The following mitigation is required as part of the project to ensure that potentially significant impacts on hazards and hazardous materials are mitigated to a less than significant level:

HAZ-1: **Six-foot Tall Perimeter Fence.** Six-foot high chain link fence around the perimeter of the proposed solar array to prevent humans and wildlife from entering the solar array field unintentionally.

3.10 Hydrology and Water Quality

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

3.10.1 Existing Conditions

The project site is located within the Santa Margarita Groundwater Basin, a primary source of water supply for the Scotts Valley, San Lorenzo Valley, and Santa Cruz areas. The site is also located within the Felton, Lower Zayante, and Mid-Zayante watersheds. The subject parcel does not contain any mapped waterways and is located outside the groundwater recharge area identified in the County's GIS mapping.

The project includes a photovoltaic (PV) system located over existing pervious surfaces that are maintained with grass and other vegetative groundcover. The project would therefore not substantially alter existing impervious surface conditions or drainage patterns. Pursuant to Santa Cruz County General Plan Policy ARC-2.1.2 (Runoff Retention), stormwater runoff from agricultural structures is required to be retained and infiltrated on site so that post-project runoff rates do not exceed natural runoff rates, consistent with applicable State and County design standards and criteria.

The County and local water agencies have identified groundwater overdraft and diminished streamflow as ongoing water-resource concerns. The Santa Margarita Groundwater Basin is subject to the Sustainable Groundwater Management Act (SGMA). In 2017, the Scotts Valley Water District, San Lorenzo Valley Water District, and County of Santa Cruz established the Santa Margarita Groundwater Agency (SMGWA) through a joint powers agreement to manage groundwater resources within the basin. The SMGWA adopted a Groundwater Sustainability Plan (GSP) in November 2021, which emphasizes water-use efficiency and conjunctive management of surface water and groundwater resources.

The project is subject to applicable County water conservation and water-resource regulations, including County Code Chapter 7.69 (Water Conservation), Chapter 7.70 (Water Wells), Chapter 7.71 (Water Systems), and Chapter 13.13 (Water Conservation—Water Efficient Landscaping), as applicable. These regulations, together with the Santa Margarita Basin GSP and other applicable water-management plans, establish requirements for protecting and managing local water resources.

3.10.2 Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

No Impact. The project does not involve construction of new or expanded development that could violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. There would be no impact.

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

No Impact. The project would not use groundwater during construction and operation and would not change the amount of impervious surfaces in the project area. Therefore, there would be no impact.

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

i. Result in substantial erosion or siltation on- or off-site?

No Impact. The project does not involve construction of new or expanded development that could alter the drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site. The project will not alter the existing natural topography, vegetation, or drainage courses on site or off site. There would be no impact.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

No Impact. The project does not involve construction of new or expanded development that could alter the drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. The project would not alter the existing natural topography, vegetation, or drainage courses on site or off site. There would be no 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?

No Impact. The project does not include existing or planned stormwater drainage systems or require such systems. There would be no impact.

iv. Impede or redirect flood flows?

No Impact. The project does not involve construction of new or expanded development that could alter the 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 that would impede or redirect flood flows. There would be no impact.

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

No Impact. The project site is not located in a flood hazard, tsunami, or seiche zone. According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map (area 06087C0212E, effective on May 16, 2012) last updated April 10, 2024, no portion of the project site lies within a flood hazard zone. The project site is located approximately seven miles inland, in a high elevation area (320 feet above sea level), approximately six miles beyond the effects of a tsunami. The project site is located approximately seven miles from Monterey Bay and would not be affected by a seiche. Therefore, there would be no impact.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The project does not involve the construction of new or expanded development that would increase demand and could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact.

3.10.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.1 Existing Conditions

The project is located in/near the unincorporated town of Felton. Dominant land uses in the area include grazing, commercial, residential, and recreation and visitor serving facilities.

The current General Plan land use designation is Urban Very Low Density Residential. The current zoning designation is Special Use. The site is also within the Felton Town Plan designated area.

The project would provide an alternate reliable source of power for the Mt. Hermon Camp and Conference Facility. General Plan Policy ARC-2.1.5 (Maximum Energy Efficiency) encourages the use of alternative energy sources such as passive and active solar design techniques to maximize energy efficiency.

3.11.2 Impact Analysis

a. Would the project physically divide an established community?

No Impact. As described previously, the project would consist of a photovoltaic microgrid on a privately owned, undeveloped parcel. The project would not increase residential density, require the installation of septic systems, affect groundwater or nearby waterways, or impact available water supplies. The project would not introduce new roads that could physically divide the community, other than site access. In addition, because the microgrid would not require daily on-site staffing and would require minimal routine maintenance, it would not generate substantial traffic or contribute to local congestion. Therefore, the proposed project would not disrupt or divide the established community. There would be no impact.

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

This discussion focuses on the project's consistency with the County's General Plan land use designation and zoning designation, and the Felton Town Plan. The discussion also identifies potential conflicts with land use policies and regulations adopted to avoid or reduce environmental effects. Policies related to biological resources (questions [e] and [f]), greenhouse gas (question [b]), and transportation (question [a]) are discussed in detail in those sections and referenced in this section.

No Impact. The project is consistent with the General Plan, which encourages the use of alternative energy sources, Special Use zoning designation. The project would not conflict with any land use plan, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Where the project does not comply with existing development standards, the County Planning Commission will consider approval of a Variance to exceed the maximum allowed lot coverage, which will override the general development standards for the zone district and bring the project into consistency with the adopted Plan. Impacts from non-compliance with the general land use standards would be less than significant. Therefore, there would be no impact.

3.11.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 Existing Conditions

The project site is not zoned M-3 for Mineral Extraction and does not have a land use designation with a Quarry Designation Overlay (Q). The project site is not classified as a Mineral Resource Zone-2 (MRZ-2).

3.12.2 Impact Analysis

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The project site is not classified as MRZ-2 by the California Department of Conservation and does not contain any known mineral resources that would be of value to the region and the residents of the state. As such, there is no potential for the project to limit availability of those resources. Therefore, there would be no impact.

3.12.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.13 Noise

Would the project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Existing Conditions

The California Department of Transportation (Caltrans) defines noise as sound that is loud, unpleasant, unexpected, or undesired. Further, for this noise analysis, noise only exists if a source, path, and receiver are present. Sound pressure waves must be produced by a source and transmitted through a medium, such as air. The sound must be perceived by, registered by, or affect a receptor, such as an ear or noise-monitoring device (Caltrans 2013).

Sound pressure levels are quantified using a logarithmic ratio of actual sound pressures to a reference pressure squared, called "bels." A bel is typically divided into tenths, or decibels (dB). Sound pressure alone is not a reliable indicator of loudness because frequency (or pitch) also affects how receptors respond to the sound. To account for the pitch of sounds and the corresponding sensitivity of human hearing to those sounds, the raw sound pressure level is adjusted with a frequency-dependent A-weighting scale stated in decibel units (dBA) (Caltrans 2013).

A receptor's response to a given noise may vary depending on the sound level, duration of exposure, character of the noise sources, time of day during which the noise is experienced, and activity affected by the noise. Activities most affected by noise include rest, relaxation, recreation, study, and communications. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects from a variety of noise levels. For example, some measures consider the 24-hour noise environment of a location by using a weighted average that penalizes noise levels during normal relaxation and sleeping hours. Other measures consider an average noise level over a period of time that includes ambient noise and a steady-state noise source for a given period of time within the averaging period (Caltrans 2013). The indices for measuring community noise levels used in this IS are defined as follows:

- **Leq**, equivalent energy level, provides an average acoustical or sound energy content of noise measured during a prescribed period such as 1 minute, 15 minutes, 1 hour, or 8 hours. The sound level may not be constant over the measured time period, but the average dB sound level, given as dBA Leq, contains an equal amount of energy as the fluctuating sound level.

- **Ldn**, day-night noise level, is a 24-hour weighted average with a 10 dBA penalty applied to the nighttime hours of 10:00 p.m. to 7:00 a.m. This penalty attempts to account for the fact that nighttime noise levels are potentially more disturbing than equal daytime noise levels.

The dB level of a sound decreases (or attenuates) as the distance from the source of that sound increases. For a single point source, such as a piece of mechanical equipment, the sound level normally decreases by approximately 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or "line," source, such as vehicular traffic, attenuates by approximately 3 dBA per doubling of distance. Other contributing factors that affect sound reception include ground absorption, natural topography that provides a natural barrier, meteorological conditions, or the presence of human-made obstacles, such as buildings and sound barriers (Caltrans 2013).

For reference, a ticking watch is around 20 decibels, a refrigerator humming is usually around 40 decibels, and a vacuum is roughly between 70 decibels and 80 decibels.

The County regulates noise exposure through the County General Plan Noise Element and the County's Noise Ordinance (SCCC Section 8.3). Noise levels standards are summarized in the following text.

County of Santa Cruz 2024 General Plan

Table 9-2, Acceptable through Unacceptable Ranges of Exterior Noise Exposure by Land Use, of the General Plan Noise Element outlines the County's Noise Compatibility Guidelines. Mechanical equipment, including motors, pumps and fans that cool and heat the apparatus, produce point-

source noise that most directly affects adjacent land uses. Frequently this equipment includes components of pure tone noise from the rotational frequency of motors. Although noise levels are generally low from these sources, the fact that such sources may operate continuously and may include pure tones that make them audible at a substantial distance creates potential for conflict. The General Plan Noise Element states that new construction or development should generally not be undertaken unless it can be demonstrated that noise reduction requirements can be incorporated and employed to reduce noise impacts to an acceptable level. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made, and needed noise insulation features must be included in the design. Likewise, when a new development has the potential to substantially increase ambient noise levels of the existing environment, appropriate noise mitigation measures must be developed as feasible. The following General Plan Noise Element policies establish relevant standards for evaluating if noise would be considered substantial:

- **Policy 9.1.1:** Consider Table 9-2, Acceptable through Unacceptable Ranges of Exterior Noise Exposure by Land Use, in the planning and permitting processes for new development to reduce noise exposure on future occupants of the new development to acceptable noise levels.
- **Policy 9.1.2:** Where noise sensitive developments would be exposed to noise levels that exceed those considered "normally acceptable," require the incorporation of noise reduction design elements as recommended by a site-specific acoustical study or using prescriptive or performance methods to reduce interior noise levels to the standards set forth in Title 24 of the California Code of Regulations for both residential and non-residential uses.
- **Policy 9.1.3:** Noise levels in common outdoor use areas in multi-unit residential development should not exceed 60 dBA Ldn. Where this goal cannot be met by reasonable measures, such as strategic site layout and noise barriers, 65 dB Ldn might be considered acceptable.
- **Policy 9.1.4:** Use the Federal Transit Administration and Federal Railroad Administration guidelines, where appropriate, to limit the extent of exposure that new sensitive uses may have to ground-borne vibration from trains.
- **Policy 9.2.1:** Require acoustical studies for all new development projects that may affect the existing noise environment affecting sensitive land uses and receptors and that may not conform to the Normally Acceptable Noise Exposure in Table 9-2.
- **Policy 9.2.2:** Require site-design and noise reduction measures for any project, including transportation projects, that would cause significant degradation of the noise environment due to project effects that could:

  - Increase the noise level at existing noise-sensitive receptors or areas by 5 dB or more, where the post-project CNEL [community noise equivalent level] or [day-night level (Ldn)] will remain equal to or below 60 dB;
  - Increase the noise level at existing noise-sensitive receptors or areas by 3 dB or more, where the post-project CNEL or [Ldn] would exceed 60 dB.

  This policy shall not be interpreted in a manner that would limit the ability of the County to require noise-related mitigation measures or conditions of approval for projects that may generate lesser increases than the above. Special consideration may also be applied to special events or activities subject to permit requirements, or to land use development permits for uses and activities exempted from County noise control regulations.

- **Policy 9.2.3:** Incorporate noise considerations into the site plan review process, particularly with regard to parking and loading areas, ingress/egress points and refuse collection areas.
- **Policy 9.2.4:** For all new commercial and industrial developments which would increase noise levels above the normally acceptable standards in Table 9-2 or the maximum allowable standards in Table 9-3, the best available control technologies shall be used to minimize noise levels. In no case shall the noise levels exceed the standards of Table 9-3.
- **Policy 9.2.5:** The following noise mitigation strategies are preferable to construction of conventional masonry noise barriers where these strategies are a feasible option to reduce impacts on sensitive uses:
  - Avoid placement of noise sensitive uses in noisy areas.
  - Avoid placement of significant noise generators in noise sensitive areas.
  - Increase setbacks between noise generators and noise sensitive uses.
  - Orient buildings such that the noise sensitive portions of a project (e.g., bedrooms) are shielded from noise sources (such as through careful design of floor plan).
  - Use sound-attenuating architectural design and building features.
  - Employ technologies that reduce noise generation, such as alternate pavement materials on roadways, when appropriate.
  - Employ traffic calming measures where appropriate.
- **Policy 9.2.6:** Require mitigation and/or best management practices to reduce construction noise as a condition of project approvals, particularly if noise levels would exceed 75 dB at neighboring sensitive land uses or if construction would occur for more than 7 days.
- **Policy 9.5.2:** Require all residential and non-residential development proposed within the 60 CNEL or Ldn aircraft noise contour to mitigate interior noise to 45 (CNEL or Ldn) or less, and to limit the maximum A-weighted noise level of single aircraft overflights to 50 dB or less.

Table 9-3, Maximum Allowable Noise Exposure Stationary Noise Sources, of the County General Plan specifies the maximum allowable noise exposure for stationary noise sources (operational or permanent noise sources). This table is reproduced in Table 3.13-1.

Table 3.13-1. Maximum Allowable Noise Exposure for Stationary Noise Sources[1]

	Daytime[5] (7:00 a.m. to 10:00 p.m.)	Nighttime[2, 5] (10:00 p.m. to 7:00 a.m.)
Hourly Leq average hourly noise level, dB[3]	50	45
Maximum Level, dB[3]	70	65
Maximum Level, dB – Impulsive Noise[4]	65	60

Source: County of Santa Cruz 2024.

Notes: dB = decibel; Leq = equivalent continuous sound level

[1] As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied to the receptor side of noise barriers or other property line noise mitigation measures.

[2] Applies only where the receiving land use operates or is occupied during nighttime hours.

[3] Sound level measurements shall be made with "slow" meter response.

[4] Sound level measurements shall be made with "fast" meter response.

[5] Allowable levels shall be raised to the ambient noise levels where the ambient levels exceed the allowable levels. Allowable levels shall be reduced to 5 dB if the ambient hourly Leq is at least 10 dB lower than the allowable level.

Santa Cruz County 2025 Code

There are no County ordinances that specifically regulate construction or operational noise levels. However, Section 8.30.010, Curfew—Offensive Noise, of the SCCC contains the following language regarding noise impacts:

A. No person shall make, cause, suffer, or permit to be made any offensive noise.

B. "Offensive noise" means any noise which is loud, boisterous, irritating, penetrating, or unusual, or that is unreasonably distracting in any other manner such that it is likely to disturb people of ordinary sensitivities in the vicinity of such noise, and includes, but is not limited to, noise made by an individual alone or by a group of people engaged in any business, activity, meeting, gathering, game, dance, or amusement, or by any appliance, contrivance, device, tool, structure, construction, vehicle, ride, machine, implement, or instrument.

C. The following factors shall be considered when determining whether a violation of the provisions of this section exists:

    1. Loudness (Intensity) of the Sound.

        a. Day and Evening Hours. For purposes of this factor, a noise shall be automatically considered offensive if it occurs between the hours of 8:00 a.m. and 10:00 p.m. and it is:

i. Clearly discernible at a distance of 150 feet from the property line of the property from which it is broadcast; or

ii. In excess of 75 decibels at the edge of the property line of the property from which the sound is broadcast, as registered on a sound measuring instrument meeting the American National Standard Institute's Standard S1.4-1971 (or more recent revision thereof) for Type 1 or Type 2 sound level meters, or an instrument which provides equivalent data.

A noise not reaching this intensity of volume may still be found to be offensive depending on consideration of the other factors outlined below.

b. Night Hours. For purposes of this factor, a noise shall be automatically considered offensive if it occurs between the hours of 10:00 p.m. and 8:00 a.m. and it is:

i. Clearly discernible at a distance of 100 feet from the property line of the property from which it is broadcast; or

ii. In excess of 60 decibels at the edge of the property line of the property from which the sound is broadcast, as registered on a sound measuring instrument meeting the American National Standard Institute's Standard S1.4-1971 (or more recent revision thereof) for Type 1 or Type 2 sound level meters, or an instrument which provides equivalent data.

A noise not reaching this intensity of volume may still be found to be offensive depending on consideration of the other factors outlined below.

2. Pitch (frequency) of the sound, e.g., very low bass or high screech;
3. Duration of the sound;
4. Time of day or night;
5. Necessity of the noise, e.g., garbage collecting, street repair, permitted construction activities;
6. The level of customary background noise, e.g., residential neighborhood, commercial zoning district, etc.; and
7. The proximity to any building regularly used for sleeping purposes.

SCCC Section 13.15, Noise Planning, also contains language regarding noise impacts. The SCCC codifies the Noise Element policies outlined previously, including the requirement to comply with Noise Element Tables 9-2 and 9-3 (Section 13.15.050) and the standards for increasing ambient noise levels outlined in Policy 9.2.2 (Section 13.15.070). SCCC Section 13.15.050 also establishes required setbacks for emergency generators from residential property lines and prohibits operation between the hours of 10:00 p.m. and 7:00 a.m. unless it is necessary for life support or

other necessary medical needs, equipment, or medication. Setbacks range from 15 feet for a generator with a manufacturer-specified noise generation of 60–61 dBA at 23 feet to a setback of 70 feet for generators that generate noise levels of 75 dBA at 23 feet. SCCC Section 13.15.060 includes special requirements for heating, ventilation, and air conditioning (HVAC) systems—noise from HVAC systems may not exceed 55 dBA at any neighboring property line. SCCC Section 13.15.040 establishes exemptions, provided that the uses meet the following prescribed performance standards:

A. Noise sources normally and reasonably associated with construction, repair, remodeling, or grading of any real property, provided a permit has been obtained from the County as required, and provided said activities take place between the hours of 8:00 a.m. and 5:00 p.m. on weekdays unless the Building Official has in advance authorized said activities to start at 7:00 a.m. and/or continue no later than 7:00 p.m. Such activities shall not take place on Saturdays unless the Building Official has in advance authorized said activities, and provided said activities take place between 9:00 a.m. and 5:00 p.m. and no more than three Saturdays per month. Such activities shall not take place on Sunday or a federal holiday unless the Building Official has in advance authorized such work on a Sunday or federal holiday, or during earlier morning or later evening hours of a weekday or Saturday.
B. Emergency Work. The provisions of this chapter shall not apply to the emission of sound for the purpose of alerting persons to the existence of an emergency or in the performance of emergency work.
C. Entertainment or Special Events. The provisions of this chapter shall not apply to those reasonable sounds emanating from authorized school bands, school athletic and school entertainment events, and occasional noncommercial private outdoor or indoor gatherings and community events, conducted between the hours of 8:00 a.m. and 10:00 p.m. or the applicable permitted timeframe, in compliance with Chapter 8.30 SCCC, Noise, (governing offensive noise) and as long as any applicable requirements for special event permits or temporary use permits are met.
D. Federal or State Preempted Activities. The provisions of this chapter shall not apply to any other activity the noise level of which is regulated by State or Federal law.
E. Minor Maintenance and Repairs to Residential Property. The provisions of this chapter shall not apply to noise sources associated with minor maintenance and repairs to property used for residential purposes, provided the activities take place between 8:00 a.m. and 5:00 p.m. and said activities are otherwise in compliance with Chapter 8.30 SCCC, Noise.
F. Right-of-Way Construction. The provisions of this chapter shall not apply to any work performed in rights-of-way when, in the opinion of the Public Works Director or their designee, such work will address traffic congestion and/or hazardous or unsafe conditions.

G. Public Health, Welfare and Safety Activities. The provisions of this chapter shall not apply to construction, maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.

H. Agricultural and Farming Activities. Noise caused by normal and customary farming operations that are carried out on lands designated by the General Plan and zoned for commercial agricultural (CA) use.

I. Special Noise Regulations for Specific Types of Activities. The provisions of this chapter shall not apply to any noise from any specific type of activity for which special noise regulations are provided by any other provision of the County Code.

3.13.2 Impact Analysis

a. Would the project result in 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. Some land uses are generally regarded as being more sensitive to noise than others due to the type of population groups or activities involved. Sensitive population groups generally include children and older adults. In accordance with the County General Plan Noise Element, noise-sensitive land uses typically include all residential uses (single- and multi-family, mobile homes, dormitories, and similar uses), hospitals, schools, churches, convalescent care facilities, and hotels.

The nearest sensitive receptors are homes in a single-family neighborhood, located approximately 142 feet to the east of the project site, 330 feet from nearest utility step up transformer, and 247 feet from the inverters, the greatest source of operational noise related to this project. The project will not exceed the standards as established in the County General Plan during daytime operational hours; and because the solar array will not operate after sunset, any ambient noise related to the solar array will drop to zero from dusk until dawn.

Potential Temporary Construction Noise Impacts

The use of construction equipment to accomplish the project would result in noise in the project area (i.e., construction zone). Table 3.13-2 shows typical noise levels for common construction

equipment. The sources of noise that are normally measured at 50 feet are used to determine the noise levels at nearby sensitive receptors by attenuating 6 dB for each doubling of distance for point sources of noise, such as operating construction equipment. Noise levels at the nearest sensitive receptors for each site were analyzed on a worst-case basis, using the equipment with the highest expected noise level.

Table 3.13-2. Typical Noise Levels for Common Construction Equipment (at 50 feet)

Equipment	Lmax (dBA)
Pneumatic tool	85
Truck	84

Source: FTA 2018.

Although construction activities would likely occur during daytime hours, noise may be audible to nearby receptors. However, periods of noise exposure would be temporary. Noise from construction activity may vary substantially on a day-to-day basis.

Construction activities would be expected to involve equipment identified in Table 3.13-2. Based on the anticipated construction activities, a pile driver would be among the loudest equipment used for the installation of solar panels, with an operating noise level of approximately 85 dBA at a distance of 50 feet. Actual noise levels would vary depending on the type of pile-driving equipment, pile depth, soil conditions, and other site-specific factors. Noise levels also decrease as the distance from the source increases. The nearest sensitive receptor is located approximately 142 feet from the construction site, at which distance the noise level from the pile driver would be expected to decrease by approximately 10 dBA, to approximately 75 dBA. Construction-related noise would be temporary (estimated by the applicant to be approximately 8 days) and would cease upon completion of construction. Therefore, construction activities would not result in a significant long-term noise impact to nearby sensitive receptors.

Construction would occur during daytime hours and therefore would not be expected to result in sleep disturbance. Additionally, average construction noise levels would not be expected to exceed the County Noise Ordinance and General Plan Policy 9.2.6 standard of 75 dBA at the nearest sensitive receptor. This impact would be less than significant.

Potential Permanent Impacts

The project includes the following permanent noise sources: inverters and utility transformers. In general, inverters only operate during the day, while transformers operate both day and night. The sound levels of AC/DC inverters depend on operating load, ambient temperature and mounting location. Manufacturing literature for the proposed central inverter (Solar Edge SE100KUS) indicates that the decibel level of the unit(s) will be less than 67 dBA. The closest

inverter will be 230 feet from the property line and at least 247 feet from the nearest residence and extrapolating the noise level, using a decibel Level (L_2) calculator, at those distances the decibel level of these inverters will be less than 20 dB and below the County specific regulations for stationary noise producers of maximum 50 dBA during the day.

The utility transformers proposed for this project will be one step-up transformer, located on an existing utility pole at the edge of the property on East Zayante Road, approximately 322 feet from the closest residence. Solar array step-up transformers are a key part of the electrical infrastructure, stepping up the voltage from the solar inverter to the transmission level. Their noise comes mainly from the low-frequency hum of magnetostriction in the core. Pursuant to the acoustic impact study conducted by the University of Louisiana at Lafayette and Louisiana State University, step-up transformers only need to be located approximately 8 feet away from neighboring properties to remain below the 45 dBA limit for nighttime use. Project noise levels would not exceed applicable County standards. The impact would be less than significant.

b. Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact with Mitigation. The main concerns associated with groundborne vibration from this type of project are annoyance and damage; however, vibration-sensitive instruments and operations can be disrupted at much lower levels than would typically affect other uses. Pile driving is a potential source of groundborne vibration. Vibrations and noise will attenuate with increasing distance. In extreme cases, the vibration can cause damage to buildings, particularly those that are old or otherwise fragile. Groundborne vibration occurring as part of the project would result from construction equipment. Following construction, the project does not include components that would generate groundborne vibration.

The County recommends the use of the Federal Transit Administration (FTA) groundborne vibration impact criteria in Noise Element Policy 9.1.4 for evaluating train vibration exposure. The FTA criteria are provided in Table 3.13-3 and are used in this analysis to determine whether vibration impacts would be significant. Construction vibration is subject to the FTA's infrequent event criteria because operation of vibration-generating equipment is anticipated to be intermittent throughout the day within the vicinity of an individual receptor. The project site is surrounded by commercial, recreational and residential land uses. Construction would only occur during the daytime and would not disturb sleep; however, residences may be occupied during daytime construction, and construction may result in a nuisance to daily activities. Therefore, an impact would occur if construction would generate vibration levels greater than 80 vibration decibel (VdB) at the nearest residence.

Table 3.13-3. Federal Transit Authority Groundborne Vibration Impact Criteria

Land Use Category	Impact Levels (VdB)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
1. Buildings where vibration would interfere with interior operations	65	65	65
2. Residences and buildings where people normally sleep	72	75	80
3. Institutional land uses with primarily daytime uses	75	78	83

Source: FTA 2018.

Notes: VdB = vibration decibel

Vibration levels are measured in or near the vibration-sensitive use.

[1] "Frequent events" are defined as more than 70 vibration events from the same source per day.

[2] "Occasional events" are defined as between 30 and 70 vibration events from the same source per day.

[3] "Infrequent events" are defined as fewer than 30 vibration events from the same source per day.

Typical vibration levels for construction equipment required for the proposed project are provided in Table 3.13-4. The project will require a hydraulic pile driver for installation of support posts for the solar panels. As shown in Table 3.13-4, vibration levels from construction equipment would be reduced to 83-91 VdB or below beyond 125 feet from the project site to the property line and 81-89 VdB or below beyond 142 feet, the distance to the nearest residence. These figures represent a reasonable estimate across a range of soil conditions and that actual construction vibration can vary considerably. As shown in Table 3.13-4, all vibration levels would be above the applicable FTA criteria at nearby receptors. This impact would be less than significant.

Table 3.13-4. Vibration Source Levels for Construction Equipment

Construction Equipment	Approximate VdB at 25 Feet	Approximate VdB at 125 Feet[1]	Approximate VdB at 142 Feet[1]
Pile driver (impact) – upper range	112	91	89
Pile driver (impact) – typical	104	83	81

Source: FTA 2018.

Notes: VdB = vibration decibel

1 Based on formula provided by the FTA (2018).

A single-family residential neighborhood is within 150 feet of the project construction area. Operation of equipment equal to a hydraulic pile driver would have the potential to exceed significance criteria at surrounding land uses. Therefore, construction activities that would require the use of a pile driver would have the potential to exceed the vibration impact criteria and result in a significant impact.

Implementation of Mitigation Measure(s) NOI-1 to reduce the noise and vibration generated by the use of a pile driver would reduce the impact to a less than significant level by 1) limiting pile

driving to between the hours of 8:00 am to 5:00 pm, Monday through Friday; 2) Mars Energy Group will select pile driving equipment that generates the least amount of vibration and noise while still meeting the project specifications, 3) to the extent feasible, Mars Energy Group will incorporate noise suppression devices and/or techniques during pile driving; and 4) Mars Energy Group or Mt Hermon Camp and Conference Center will notify occupants of residents located within 200 feet of pile-driving activities of the project construction schedule in writing, at least four weeks prior to the commencement of construction. Therefore, the impact would be less than significant with mitigation.

- Mitigation Measure(s) NOI-**1**: Noise and Vibration Reduction.

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 result in exposure of people residing or working in the project area to excessive noise levels?

No Impact. The project is not within the vicinity of a private airstrip or within 2 miles of a public airport. The project site is 21 miles from the nearest airport in Watsonville. Therefore, the project would not expose people residing or working in the project area. No impact is anticipated.

3.13.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.14 Population and Housing

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Existing Conditions

In 2023, Santa Cruz County had an estimated population of 261,547. Roughly half of this population—approximately 129,313 people—lives in unincorporated areas of the County (U.S. Census Bureau 2024). The County's population has been fairly stable over the last 3 years.

AMBAG is responsible for projecting regional growth for the Santa Cruz, San Benito, and Monterey Counties. AMBAG projects that the County's unincorporated population will grow to 141,645 by 2040, relative to 306,881 for the County as a whole. AMBAG projects that the County's unincorporated population will grow at a slower rate than the County as a whole. Based on AMBAG's projected 2020 population, the 2040 population forecast estimates an increase of 4,754 people in the unincorporated area, which would result in an average annual growth rate in the unincorporated area of 0.2 percent, relative to approximately 0.5 percent for the County as a whole. However, because the U.S. Census Bureau's actual 2020 population was lower than AMBAG's forecast, AMBAG's projected 2040 population would represent an increase of 8,492 people in the unincorporated area based on the 2020 Census. This results in an average annual growth rate in the unincorporated area of 0.3 percent, relative to approximately 0.7 percent for the County as a whole.

3.14.2 Impact Analysis

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

No Impact. The project would not induce substantial population growth in an area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area, including but not limited to the following: new or extended infrastructure or public facilities, new commercial or industrial facilities, large-scale residential development, accelerated conversion of homes to commercial or multi-family use, or regulatory changes including General Plan amendments, specific plan amendments, zone reclassifications, sewer or water annexations, or LAFCO annexation actions. Therefore, there would be no impact.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The site does not contain residential structures that would be demolished. The project would not displace any existing housing because the site is currently vacant. Furthermore, due to limitations for water and septic, the site has not been identified as an opportunity for future residential use either within the General Plan or the Felton Town Plan, or for increased residential density within the Housing Element. Therefore, there would be no impact.

3.14.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.15 Public Services

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.15.1 Existing Conditions

The nature of the proposed use of this parcel for a photovoltaic array does not rely upon urban services for operation. Because the proposal does not increase the number of residents or employees on the site, the proposed PV array would not intensify need for emergency services or increase demand for new schools, parks or other public facilities.

3.15.2 Impact Analysis

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

Fire protection?

No Impact. The project would not directly or indirectly generate additional residents or employees that would adversely impact fire response times. Because the project would not result in the permanent increase in population growth, no increase in the need for fire protection facilities would occur. As a result, construction or expansion of new fire service facilities would not be required. There would be no impact.

Police protection?

No Impact. The project would not directly or indirectly generate additional residents or employees that would require police services and adversely impact police response times. Because the project would not result in the permanent increase in population growth, no increase in the need for police protection facilities would occur. As a result, construction or expansion of new police protection facilities would not be required. There would be no impact.

Schools?

No Impact. The project would not directly or indirectly generate additional residents or employees that could result in a need to provide school facilities for school-aged children. No new schools would need to be built to maintain acceptable performance objectives. As a result, construction or expansion of schools would not be required. There would be no impact.

Parks?

No Impact. The project would not directly or indirectly generate additional residents or employees that could result in a need for the construction of new parks. As a result, construction or expansion of schools would not be required. There would be no impact.

Other public facilities?

No Impact. The project would not directly or indirectly generate additional residents or employees that would adversely impact sewer systems, water supply, hospitals or other public facilities. Because the project would not result in the permanent increase in population growth, no increase in the need for sewer systems, water supply, hospitals or other public facilities would occur. As a result, construction or expansion of new sewer systems, water supply, hospitals or other public facilities would not be required. There would be no impact.

3.15.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.16 Recreation

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Existing Conditions

The proposed solar array would not be installed on public lands, nor would the project introduce a new population or affect existing facilities and therefore the proposal would not affect the use of or demand for parks.

The County park system includes regional facilities that serve the entire County's population and local parks (e.g., neighborhood, rural, community parks, and coastal access) that serve unincorporated neighborhoods outside an independent recreation and park district boundary. The County's existing park resources are adequate based on the guidance standards provided in the Parks, Recreation, and Public Facilities Element of General Plan. The County park system includes regional and neighborhood parks. The current standard is to provide 3 usable acres per 1,000 population.

Parks and recreational facilities within the vicinity of the project include the historic Felton Covered Bridge County Park at the intersection of Mt. Hermon Road and Graham Hill Road and, across East Zayante to the east of the subject site, a 14-acre portion of the recreational park owned by Mt. Hermon Association.

3.16.2 Impact Analysis

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed solar panel array would not introduce additional population to the area that would use existing park facilities and contribute to the physical deterioration of those facilities. Therefore, there would be no impact.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The project does not include or require the construction or expansion of recreational facilities. There would be no impact.

3.16.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.17 Transportation

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

3.17.1 Existing Conditions

The site is an undeveloped site at the corner of East Zayante and Conference Drive between downtown Felton Village and the entrance to Mt. Hermon Camp and Conference Center. The thick brush and oak trees line the perimeter of the site, screening the interior of the parcel. The proposed solar panels will not increase vehicle traffic, alter the existing circulation patterns, or decrease road visibility.

3.17.2 Impact Analysis

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

No Impact. There would be no operational changes to the vehicle circulation system because no additional traffic would be generated.

The project would involve a large photovoltaic array surrounded by a 6-foot chain-link fence, not accessible to the public. These improvements would be consistent with applicable Santa Cruz County plans, policies, and ordinances.

The project design would be in accordance with Santa Cruz County Code Chapter 13.16, Parking and Circulation, which has required standards for access, circulation, and parking, as well as the County's Department of Public Works design criteria, which has design and construction standards for roadways. Compliance with these design requirements would prevent potential hazards to motorists, bicyclists, and pedestrians.

Minimal access is required to maintain the site (i.e. routine panel service, vegetation management).

Therefore, the project would not conflict with any programs, plans, or ordinances addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. There would be no impact.

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

No Impact. The project consists of a large solar panel array, a passive operation that would not cause any increase in vehicle trips. Therefore, it would not increase VMT. The site is not accessible to the public and does not require daily staffing. Therefore, there would be no impact.

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

No Impact. No increase in hazards would occur from the project design or from incompatible uses. The project removes access from Conference Drive, a County road designated as a "Mountain Agricultural" road, and adding access from an existing parking lot, reducing potential road hazards that might result from vehicles taking access off Conference Drive. There would be no impact.

d. Would the project result in inadequate emergency access?

No Impact. The proposed solar array would provide emergency access. There would be no impact.

3.17.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

3.18.1 Existing Conditions

California Public Resources Code, Section 21080.3.1(b) (AB 52), requires a lead agency to formally notify a California Native American Tribe that is traditionally and culturally affiliated within the geographic area of the discretionary project when formally requested. As of this writing, no California Native American Tribes traditionally and culturally affiliated with the County region have

formally requested consultation with the County (as the lead agency under CEQA) regarding Tribal Cultural Resources.

3.18.2 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

No Impact. No California Native American Tribes traditionally and culturally affiliated with the Santa Cruz County region have formally requested consultation with the County of Santa Cruz (as the lead agency under CEQA) regarding Tribal Cultural Resources. As discussed in Section 3.5, Cultural Resources, no Native American resources listed or eligible for listing in a state or local register are present within the project site, and the project does not involve any ground-disturbing activity that could potentially disturb buried resources. Therefore, there would be no impact.

3.18.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.19 Utilities and Service Systems

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

3.19.1 Existing Conditions

The proposed photovoltaic microgrid facility would not consume water or generate wastewater or solid waste, and therefore not require connection to a water supply or wastewater treatment facilities. Any storm water facilities would be constructed on site as part of the array design.

3.19.2 Impact Analysis

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

No Impact. The project includes a photovoltaic microgrid which would not require or result in the relocation or construction of new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental impacts. Any storm water drainage facilities would be constructed on site as part of the array design. There would be no impact.

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

No Impact. The project includes a photovoltaic microgrid that does not require connection to a water supply. No water use would be required during the operational phase of the project. Therefore, the project would have sufficient water supplies available to serve the project and, because water use would be restricted to the construction period, reasonably foreseeable future development during normal, dry, and multiple dry years. There would be no impact.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. No wastewater would be generated by the project. There would be no impact.

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

No Impact. The project is for a photovoltaic microgrid which would not generate solid waste during operation. Therefore, the project would not generate solid waste in excess of state or local standards or the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals. There would be no impact.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The project would not generate solid waste. Therefore, compliance with federal, state, or local statutes or regulations related to solid waste is not applicable to the project. There would be no impact.

3.19.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Existing Conditions

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards in the state through its Fire and Resources Assessment Program. These areas are referred to as FHSZs and are identified for Federal Responsibility Areas, where federal agencies have responsibility for wildfire protection; State Responsibility Areas (SRAs), where CAL FIRE has responsibility for wildfire protection; and Local Responsibility Areas, where local fire protection agencies have responsibility for wildfire protection. Different FHSZs (Moderate, High, and Very High) are based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban conflagration could result in catastrophic losses. The speed and intensity of potential fires within the area, ability of embers to spread and multiply, loading of fuel, topographic conditions, and

local climate culminate to form the fire hazard severity for an area. Very High FHSZs are areas lacking adequate wildland and structural fire protection. In addition to CAL FIRE's FHSZ mapping, the County has also mapped critical and mitigable wildfire hazard areas due to accumulations of wildfire-prone vegetation, steep and dry slopes, and the presence of structures vulnerable to wildland fires.

The project site is located in an SRA. The project site is within a High Fire Severity Zone. The project site is not located in a Critical Fire Hazard Area.

3.20.2 Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The project is located in a High State Emergency Response Area. The San Mateo – Santa Cruz Unit Strategic Fire Plan and the Community Wildfire Protection Plan address areas with inadequate access and evacuation routes, identify risk to life and property from wildland fire, and provide information on firefighter safety, community evacuation, and recommended actions by first responders. The plans also address post-fire responsibilities for natural resource recovery, including watershed protection, reforestation, and ecosystem restoration. In addition, the County adopted a Local Hazard Mitigation Plan 2021–2026 (Santa Cruz County 2021), as required by state law.

The project would be consistent with County development standards by meeting California State Building Codes and the Local Hazard Mitigation Plan and would not conflict with any of these plans. Additionally, the proposed project would not impede existing access or evacuation routes. Therefore, the impact would be less than significant. No mitigation is required.

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

Less than Significant Impact. The project is located in a High State Emergency Response Area. However, the project design incorporates all applicable fire safety code requirements, including appropriate emergency access, and includes fire protection devices as required by the local fire agency. In addition, the project will be required to meet the General Plan policies related to fire resilience and access in the Santa Cruz County General Plan and standards for defensible spaces in the PRC and County Code. Although wildfire behavior can be influenced by factors including topography and wind, the project would not introduce conditions that would substantially

exacerbate those existing factors. The impact would be less than significant. No mitigation is required.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than Significant Impact. Although the project is located in a High State Emergency Response Area, the project design incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency and would not substantially exacerbate wildfire risk. In addition, the project would be required to meet the General Plan policies related to fire resilience and access in the Santa Cruz County General Plan and standards for defensible spaces in the PRC and County Code. Therefore, the impact would be less than significant. No mitigation is required.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than Significant Impact. The project is located in a High State Emergency Response Area. The solar array is proposed on a moderate slope. However, the project design incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency. In addition, the project would be required to meet the General Plan policies related to fire resilience and access in the Santa Cruz County General Plan and standards for defensible spaces in the PRC and County Code. Therefore, the impact would be less than significant. No mitigation is required.

3.20.3 Mitigation Measures

The analysis completed for this resource area indicates that no potentially significant impacts would result from implementation of the project, and no mitigation measures are required.

3.21 Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. 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)?	☐	☐	☒	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino,(1988) 202 Cal.App.3 d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3 d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

The following findings are made considering the whole record, as presented in Sections 3.1 through 3.20 of this IS, to determine if the project may have a significant effect that mandates preparation of an EIR.

3.21.1 Impact Analysis

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

Less than Significant Impact with Mitigation. Impacts on the environment are discussed throughout this IS. Potentially significant impacts that would result from construction or implementation of the project are discussed in Section 3.4 Biological Resources. Implementation of the mitigation measure(s) in this IS would reduce these impacts to a less than significant level. Refer to Section 1.8, Mitigation Measures, for a summary of mitigation measures.

Section 3.4, Biological Resources, and Section 3.5, Cultural Resources, address how the project would affect biological and/or cultural resources. The project would have a significant effect on oak woodland habitat by necessitating the removal of five oak trees. The project could also impact nesting birds and the San Francisco dusky-footed woodrat by disturbing vegetation. Implementation of the mitigation measure(s) in this IS would reduce these impacts to a less than significant level.

Based on the analyses in this IS, including Sections 3.4 Biological Resources and 3.5 Cultural Resources, there is no substantial evidence that the project would (1) substantially degrade environmental quality; (2) substantially reduce fish or wildlife habitat or populations; (3) threaten to eliminate a plant or animal community; (4) substantially reduce the number or restrict the range of a rare, threatened, or endangered species; or (5) eliminate important examples of the major periods of California history or prehistory..

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

No Impact. In addition to project-specific impacts, this evaluation considered the project's potential to contribute to cumulative impacts. A review of planning documents indicates that

cumulative impacts exist for water supply, septic constraints, loss of habitat, and traffic congestion. As discussed in Sections 3.1 through 3.20, the project would have no impacts related to water supply, septic constraints, loss of habitat, and traffic congestion. Therefore, there would be no potential for the project to contribute to a cumulative 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 with Mitigation. In the evaluation of environmental impacts in this IS, the potential for adverse direct or indirect impacts to human beings were considered in the responses to specific questions in Sections 3.1 through 3.20. As a result of this evaluation, potential impacts related to public viewshed, hazards, noise, and ground vibrations during construction were considered. While these impacts could be significant, mitigation measures have been identified to reduce these impacts to a less than significant level. Implementation of the mitigation measure(s) provided in this IS would reduce these impacts to a less than significant level. Refer to Section 1.8 for a summary of the mitigation measures. Therefore, while some impacts would result from the project, they would be less than significant with mitigation incorporated and would not result in substantial adverse effects to human beings, either directly or indirectly.

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4 List of Preparers

4.1 Lead Agency

County of Santa Cruz
Department of Community Development and Infrastructure
Planning Division

Rebecca Rockom, Project Planner

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Appendix A. Biotic Report

Biotic Report / Mars Energy Group Conference Drive Solar Project, Terracon. February 27, 2026.



Biotic Report

Mars Energy Group

Conference Drive Solar Project

Conference Drive

Felton, CA

February 27, 2026

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February 27, 2026

Mars Energy Group
555 Menlo Dr. Suite A
Rocklin, CA 95765

Attn: Ms. Alyssa Ornellas
P: (803) 663-9496
E: aornellas@marsenergygroup.com

RE: Conference Drive Solar Project – Biotic Report
Conference Drive (37.0517, -122.0664)
Felton, California 95018
Terracon Project No. **K2257035**

Dear Ms. Ornellas,

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Biotic Report for the above-referenced Project. The following report details our findings and presents an opinion regarding the potential impact on biological resources on the site. Please feel free to contact us at 831-717-4320 or at brett.bell@terracon.com if you have any questions or concerns.

Sincerely,
Terracon

Brett Bell
Project Manager
Senior Staff Scientist

Hunter Watkins
Authorized Project Reviewer

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Summary

Terracon consultants conducted a desktop review and a reconnaissance field survey for two (2) parcels along Conference Drive and adjacent to the Felton Faire Shopping Center located along Graham Hill Road in Felton, California 95018. The site assessment evaluated biological resources within the Study Area and analyzed potential impacts associated with the proposed solar array installation.

No potentially jurisdictional wetlands or other Waters of the U.S (WOTUS) were identified within the Study Area. Previous delineations prepared in 2006, 2008, and 2013 similarly documented absence of features required to meet the federal wetland criteria. Currently the parcel supports six (6) primary vegetation types: French broom (*Genista monspessulana*) thicket/coyote brush (*Baccharis pilularis*) scrub, needlegrass grassland, annual grassland, oak woodland, rush-sedge meadow, and nonnative tree groves. Of these types, oak woodland and needlegrass grassland are sensitive vegetation types. Oak woodland is considered sensitive habitat under Santa Cruz County Code (SCCC) 16.32 and needlegrass grassland has a state rarity rank of S3S4 and a global rarity rank of G3G4. Oak woodland has the potential to be impacted by the proposed Project footprint, while needlegrass grassland can be avoided under the current Project footprint.

Special-status plant and wildlife species were evaluated using California Natural Diversity Database (CNDDB), U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC), California Native Plant Society (CNPS), and Calflora occurrence data.

Fifteen (15) special-status plants were evaluated. Most special-status plants were not expected to occur within the Study Area due to the absence of suitable habitat observed within the Study Area.

Four (4) special-status plant species were identified as having low potential to occur in the Study Area:

- San Francisco popcornflower (*Plagiobothrys diffusus*) – A state-endangered species with low potential to occur within the Study Area. Suitable habitat is present on site, but the closest occurrence is greater than three miles away from the Study Area in and around the Marshall field complex on UC Santa Cruz campus natural reserve lands.
- Marsh microseris (*Microseris paludosa*) – A CNPS Rank 1B.2 species with low potential to occur within the Study Area. Suitable habitat is present on site, but the most recent nearby occurrence was documented in 2015 and was greater than three miles away from the Study Area near the Marshall field complex on UC Santa Cruz campus natural reserve lands.
- Santa Cruz tarplant (*Holocarpha macradenia*) – A CNPS Rank 1B.1 species with low potential to occur within the Study Area. Suitable habitat is present on site, but the closest known occurrence was documented near the Graham Hill Showgrounds greater than three miles from the Study Area.
- Deceiving sedge (*Carex saliniformis*) – A CNPS Rank 1B.2 species with low potential to occur within the Study Area. Suitable habitat is present on site, but the nearest observation is in Scott's Valley, Camp Ever's Bog.

The habitat requirement of twenty-seven (27) special-status wildlife species and nineteen (19) migratory bird species were evaluated. Most special-status wildlife species were not expected to occur within the Study Area due to absence of required habitat to support these populations.

Two (2) special-status species were identified as having low potential or confirmed presence within the Study Area:

- California red-legged frog (*Rana draytonii*) – A federally threatened species with low potential to occur within the Study Area based on proximity to Zayante Creek on the adjacent parcel and marginal upland habitat within the Project footprint.
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) – A California Species of Special Concern. Presence of this species has been confirmed within the Study Area. Three (3) woodrat nests were observed within the Study Area, one of which is within the proposed Project footprint.

California red-legged frog is protected under the Endangered Species Act (ESA). The San Francisco Dusky-footed woodrat is protected under California Fish and Game Code (FGC) Section 4150. Migratory bird species are protected under the Migratory Bird Treaty Act (MBTA) and FGC Section 3513.

Avoidance and minimization measures for both special-status species and for nesting birds are included in this report. These measures are suggested to avoid potential impacts or reduce the severity of an impact to a less-than-significant level should any sensitive species occur during Project activities.

1. Introduction

This Biotic Report (report), prepared by Terracon Consultants, Inc. (Terracon) provides details of the biological resources that may be affected by the proposed development of a solar structure in Santa Cruz County (the County). This report documents existing conditions on the site proposed for development and assesses potential impacts on sensitive biological resources based on Terracon's understanding of the current proposed Project plans and the client-provided Project footprint.

Due to the newly proposed Project and known sensitive habitats on site, the County has requested a Project-specific Biotic Report that identifies the locations of sensitive habitats on the parcel, and the least potential impactful location for development while recommending avoidance, minimization and options for mitigation for unavoidable impacts. This report analyzes existing biological resources and evaluates potential impacts associated with the proposed Project.

The specific objectives of this report are to:

- Compile and summarize site-specific information related to existing biological resources, utilizing literature reviews, species databases, and field surveys conducted by Terracon.
- Infer the potential presence of other biological resources on site based on habitat suitability and proximity to known species ranges.
- Outline relevant state and federal natural resources protection laws pertinent to the Project's development within the Study Area.

- Assess and discuss Project impacts on biological resources within the Study Area, aligning with California Environmental Quality Act (CEQA) and other relevant laws.
- Recommend avoidance and mitigation measures to minimize impacts to a level deemed insignificant under CEQA standards, consistent with resource agency guidelines for affected biological resources.

2. Project Description

The site (Study Area) consists of two parcels (owned by Mt. Hermon Association) along Conference Drive and adjacent to the Felton Faire Shopping Center located along Graham Hill Road in Felton, California 95018 (37.0517, -122.0664). The property is located within the southeast portion of the Zayante land grant within Township 10S, Range 2W, Mt. Diablo Meridian, within the unincorporated area of Felton within the Felton U.S. Geological Survey (USGS), 7.5-minute Series Quadrangle. Mars Energy Group has proposed to construct solar panels and associated staging areas/access routes across both parcels (APN 071-331-05 and 071-331-06). The site is currently undeveloped, yet remnants from previous land uses were observed (e.g., old concrete pad, old roads).

3. Project History

In 2006, H.T. Harvey & Associates conducted a delineation of potential Waters of the U.S., including wetlands that was submitted to the U.S. Army Corps of Engineers (USACE). USACE declined jurisdiction as per Section 404 of the Clean Water Act. In 2008, H.T. Harvey & Associates prepared a biological report which incorporated findings of the 2006 wetland delineation and other biological resources for a proposed housing development. The 2008 report documented four (4) habitat types on the property: California annual grassland, coast live oak forest, coyote brush/chaparral/French broom thicket, and isolated seasonal wetlands (Biotic Resource Group, 2013).

In 2013, Biotic Resources Group conducted a Biological Review addressing biological resources and impacts associated with the proposed recreational and open space uses. Vegetation, aquatic features, and potential wetlands documented in the 2006 report were re-examined, along with sampling vegetation and obtaining field data on soil and hydrology conditions (Biotic Resource Group, 2013). The 2013 Biological Review identified seven (7) primary vegetation types; similar distribution and species composition documented in the 2008 report, with the addition of needlegrass grassland and riparian scrub along the ephemeral drainage. Previously reported isolated wetlands were re-classified in 2013 as rush-sedge meadow.

4. Methodology

Biological conditions of the property were assessed through desktop review; by confirming applicable regulations, policies, and standards; reviewing biological literature and querying available databases pertinent to the Study Area and vicinity (9 topographic quadrangles for California Department of Fish & wildlife's [CDFW] CNDDB and CNPS' Inventory of Rare and Endangered Plants). A reconnaissance-level biological field survey of the Study Area was conducted by Terracon biologists on January 8, 2026. This

assessment provides existing biological conditions of the Study Area at the time of the literature review and reconnaissance survey. The methods employed are described in detail below. The findings and opinions conveyed in this report are based on this methodology.

4.1 Biological Review

The biological resources of the property were assessed through literature review and field observations. To update the evaluation of the potential occurrence of special-status species, three (3) electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the CNPS Electronic Inventory, CDFW RareFind database, and USFWS IPaC for the Felton USGS quadrangle and surrounding nine (9) quadrangles (CNPS, 2026; CDFG, 2026; USFWS, 2026).

Terracon reviewed readily available literature and database resources to identify potential threatened and endangered species within the Study Area. A desktop review for historical aerial photographs, historic topographic maps, USFWS National Wetlands Inventory (NWI) maps, soil data from the Natural Resources Conservation Service (NRCS), USGS National Hydrography Dataset (NHD) maps, plant and wildlife species data through CDFW CNDDB records, CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California, USFWS IPaC service, and National Oceanic and Atmospheric Administration (NOAA) Fisheries species Essential Fish Habitat (EFH) for Study Area quadrangles and other related data applicable based on availability. The preliminary desktop review assisted Terracon in identifying potential aquatic resources within the Study Area, as well as the potential for threatened/endangered species habitat.

4.2 Field Reconnaissance Survey

A field reconnaissance survey was conducted by Terracon biologists, Brett Bell (Senior Botanist) and Caitlin Beebe (Wildlife Biologist) on January 8, 2026. This survey involved observations regarding suitability of habitat or other visual evidence of the federally or state-listed species during a pedestrian survey. Note that this task is to identify if habitat preferred by a threatened and endangered species is present within the Study Area; it is not a substitute for a protocol-level survey for specific species, which may be necessary if suitable habitat is determined to be present. GPS data was collected using ArcGIS Field Maps with an external Trimble Juniper® Geode GNS3M receiver, capable of sub-foot accuracy. GPS positions were processed and corrected to analyze data using ArcGIS Pro.

The reconnaissance survey was conducted by walking meandering transects throughout the site, adequately assessing the Study Area for vegetation communities and potential habitat of special-status species. Previous vegetation mapping prepared by H.T. Harvey & Associates in 2008 was field checked and revised, as needed, to reflect current site conditions (Biotic Resources Group, 2013). Particular emphasis was placed on the potential footprint of the Project based on preliminary plans. Representative photographs were taken to document vegetation communities, evidence of species or their habitat, or other notable biological resources observations. See **Appendix B** to view a list of plant species observed during this site visit.

5. Baseline Environmental Conditions

Terracon reviewed the desktop resources to gain understanding of the Study Area and to preliminarily evaluate the presence of potential habitat for special-status plant and wildlife species. The following sections outline baseline biotic conditions within the Study Area, based on the desktop review and site visit. See **Appendix A, Exhibit 1** to view a map of biological resources on site.

5.1 Hydrology

The Study Area is located within the Zayante Creek-San Lorenzo River Watershed, Hydrologic Unit Code (HUC) 180600150202 (EPA 2026). The hydrology of the Study Area and vicinity were evaluated through review of topographic maps, aerial photos, and the National Wetland Inventory (USFWS 2024), in conjunction with field survey data.

Terracon reviewed NWI data for the Study Area to identify potential wetland areas. Based on the NWI dataset, the Study Area does not appear to contain wetland features. The nearest features in the vicinity include riverine features approximately 0.1 mile to the east Zayante Creek), 0.1 mile to the south (Zayante Creek), and 0.3 miles to the southwest (San Lorenzo River). There is a freshwater emergent wetland feature approximately 0.4 miles to the east and some freshwater pond features approximately 0.6 miles to the northeast and 1.25 miles to the east. All the freshwater ponds in the vicinity have been created or modified by a human-made barrier or dam that obstructs the inflow or outflow of water.

In addition to the absence of wetland features on NWI maps, multiple iterations of previous biotic reports found that no 3-parameter-defined wetlands were documented on the property. In 2013 there were five locations where wetland delineations were conducted, all of which failed to pass the 3-parameter test. These areas contained some wetland vegetation and were previously defined as a rush-sedge meadow vegetation type. Our field survey indicated these areas are consistent with prior reports and we continue to use the rush-sedge vegetation type to define them.

5.2 Vegetation Communities

Terracon observed six (6) distinct vegetation types within the Study Area: French broom thicket/coyote brush scrub, needlegrass grassland, annual grassland, oak woodland, rush-sedge meadow, and nonnative trees.

5.2.1 French Broom Thicket/Coyote Brush Scrub

Within the Study Area, there were dense stands of shrubs dominated by nonnative and highly invasive French broom, and scattered occurrences of coyote brush, poison oak (*Toxicodendron pubescens*), and occasional elderberry (*Sambucus sp.*) that make up the perennial woody vegetation. Terracon observed three (3) woodrat nests within this vegetation community, though further inspection is required to determine if nests are active. Multiple trash dump sites were observed in this area as well. Approximately 70 percent of the vegetative cover was dominated by French broom, which contains a California invasive plant council (Cal-IPC) ranking of *high*. The *high* ranking describes species that have severe ecological impacts on plant/animal communities, physical processes, and vegetation structure (Cal-IPC, 2026). The French broom in this area has crowded out all open areas, and very little sunlight reaches the soil.

There is no suitable habitat for the special-status plant species previously mentioned in this plant community, many of which require open, sunny areas for their seeds to germinate.

5.2.2 Needlegrass Grassland

Needlegrass grassland is present along the upper slopes of the grassland portion of the Study Area and consists of a mixture of perennial needlegrass species (*Stipa* sp.) as well as several nonnative annual grasses. Needlegrass grassland contains a state rarity rank of S3S4 and a global rarity rank of G3G4 indicating this habitat is vulnerable (S3 and G3) to apparently secure (S4 and G4). Santa Cruz County native grassland habitat, most of which is classified as coastal prairie, has been reduced by over 90% of its original range. While this grassland is outside of the coastal zone, similar conditions exist on site that make the habitat suitable for species that also occur in coastal prairie systems.

5.2.3 Annual Grassland

Annual grassland makes up the majority of the grassland present in the Study Area and consists of several nonnative annual grasses dominated by velvet grass (*Holcus lanatus*), slender wild oat (*Avena barbata*), and ripgut brome (*Bromus diandrus*).

5.2.4 Oak Woodland

Oak woodland occurs throughout the Study Area and consists of both isolated oak trees on the upper sloped areas and amidst the annual grassland, as well as larger swaths of more contiguous woodland on the southern portion of the site where the topography is flatter and more moisture collects in the wet season. Low lying areas in the understory of this larger occurrence of oak woodland contain plants that can handle wetter conditions, resemblant of a riparian scrub community, such as California blackberry (*Rubus ursinus*), and scattered occurrences of spreading rush (*Juncus patens*). Oak woodland is considered Sensitive Habitat under the Sensitive Habitat Protection Ordinance (SCCC 16.32) and should be avoided where possible. A detailed inventory of oak trees on site was not conducted during the field reconnaissance survey conducted by Terracon in January 2026.

5.2.5 Rush-Sedge Meadow

Areas defined as rush-sedge meadow consist of small, isolated features; most located in low-lying areas with minor topographic depressions. This vegetation type includes spreading rush, field sedge (*Carex praegracilis*), velvet grass, and tall flat sedge (*Cyperus eragrostis*). Some additional rush and sedge species as well as annual grasses and forbs observed in January 2026 were not flowering and were unidentifiable at the species level during the time of the site assessment.

5.2.6 Nonnative Trees

The northeast corner of the Study Area contains a dense stand of trees dominated by the nonnative invasive *Acacia* sp. Scattered occurrences of young coast live oak (*Quercus agrifolia*) trees (under 4 inches diameter at breast height [DBH]) were also observed amongst the nonnative trees.

5.3 Wildlife

5.3.1 Common Wildlife

The Study Area has the potential to support a variety of common wildlife species. Wildlife species or signs thereof, observed during the site assessment included black-capped chickadee *(Poecile atricapillus)*, chestnut-backed chickadee *(Poecile rufescens)*, yellow-rumped warbler *(Setophaga coronata)*, northern house wren *(Troglodytes aedon)*, Bewick's wren *(Thryomanes bewickii)*, mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), scrub jay *(Aphelocoma sp.)*, dark-eyed junco *(Junco hyemalis)*, wrentit *(Chamaea fasciata)*, northern flicker *(Colaptes auratus)*, unidentified hawk species, Anna's hummingbird *(Calypte anna)*, and black-tailed deer *(Odocoileus hemionus)*. A deceased unidentified hawk species was also identified, and three (3) woodrat nests were observed within the Study Area.

5.4 Sensitive Biological Resources

Local, state, and federal agencies regulate special-status species and require an assessment of their presence or potential presence to be conducted on-site prior to the approval of any proposed activity on a property. This section discusses biological resources observed in the Study Area and evaluates the potential for the Study Area to support other sensitive biological resources. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, and species occurrence records from the CNDDB. See **Appendix A, Exhibit 2a** and **2b** to view a map of CNDDB records in the vicinity of the Project Area.

The potential for each special-status species to occur in the Study Area was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime). The species is not expected to be found on the site.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate potential of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high potential of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

5.4.1 Special-Status Plants

Based on the review of IPaC and CNDDB databases, Terracon evaluated potential habitat for special-status plant species within the Study Area. Special-status plant species include those that are listed, proposed, or candidate threatened or endangered species by either federal or state agencies, as well as those identified as Species of Special Concern by CDFW (Table 5-1).

Table 5-1. Special-status plant species listing status and potential for occurrence on site.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Plants					
Humboldt County milk-vetch	*Astragulus agnicidus*	SE	Broadleaved upland forest, north coast coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Marsh sandwort	*Arenaria paludiicola*	FE/SE	Freshwater marsh, swamp, wetland	A	Not Expected: no suitable habitat observed within Study Area.
Ben Lomond spineflower	*Chorizanthe pungens var. hartwegiana*	FE	Low montane coniferous forest, sand hills	A	Not Expected: no suitable habitat observed within Study Area.
Ben Lomond wallflower	*Erysimum teretifolium*	FE	Santa Cruz/Ben Lomond sand hills	A	Not Expected: no suitable habitat observed within Study Area.
Robust spineflower	*Chorizanthe robusta var. robusta*	FE	Chaparral, cismontane woodland, coastal bluff scrub, coastal dunes.	A	Not Expected: no suitable habitat observed within Study Area.
Santa Clara Valley dudleya	*Dudleya abramsii spp. Setchellii*	FE	Cismontane woodland, ultramafic, valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
Santa Cruz tarplant	*Holocarpha macradenia*	FT/SE	Coastal prairie, coastal scrub, valley & foothill grassland	HP	Low: nearest occurrence off Graham Hill Rd.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Scotts Valley polygonum	*Polygonum hickmanii*	FE/FE	valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
White-rayed pentachaeta	*Pentachaeta bellidiflora*	FE/SE	Ultramafic, valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
San Francisco popcornflower	*Plagiobothrys diffusus*	SE	Coastal prairie, valley & foothill grassland	HP	Low: closest occurrence >3 mi southwest of study Area near UCSC/Wilder Ranch
Butano Ridge cypress	*Hesperocyparis abramsiana var. butanoensis*	FT/SE	Chaparral, closed-cone coniferous forest, lower montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Santa Cruz cypress	*Hesperocyparis abramsiana*	FT/SE	Chaparral, closed-cone coniferous forest, lower montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Marsh microseris	*Microseris paludosa*	CNPS 1B.2	Meadows & seeps, coastal prairie, valley & foothill grassland	HP	Low: nearest known occurrence since 1950 is > 3 mi from Study Area near UCSC/Wilder Ranch
Ben Lomond Buckwheat	*Eriogonum nudum* var. *decurrens*	CNPS 1B.1	Sand hills, chaparral, foothill woodland	A	Low: most recent nearby observations from 1980, or
Deceiving sedge	*Carex saliniformis*	CNPS 1B.2	Meadows & seeps, coastal prairie	HP	Low: nearest observation in Scott's Valley, Camp Ever's Bog

5.4.2 Special-Status Wildlife Species

Based on the review of IPaC and CNDDB databases, Terracon identified 27 special-status wildlife species and 19 migratory birds protected under the MBTA with potential to occur in the Study Area. Special-status wildlife species include those that are listed, proposed, or candidate threatened or endangered species by either federal or state agencies, as well as those identified as Species of Special Concern by CDFW (Table 5-2). Migratory birds were evaluated separately in accordance with MBTA requirements (Table 5-3).

Table 5-2. Special-status wildlife species listing status and potential for occurrence on site.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Birds					
Bald eagle	*Haliaeetus leucocephalus*	SE	Lower montane coniferous forest, old growth	A	Not Expected: no suitable habitat observed within Study Area.
Bank swallow	*Riparia riparia*	ST	Riparian scrub, riparian woodland. Vertical banks	A	Not Expected: no suitable habitat observed within Study Area.
Black swift	*Cypseloides niger*	---/SSC	Cliffs, arroyos and canyons, coasts, and shorelines	A	Not Expected: no suitable habitat observed within Study Area.
Burrowing owl	*Athene cunicularia*	SCE	Coastal prairie, coastal shrub, valley & foothill grassland	A	Not Expected: no suitable habitat observed within Study Area.
California black rail	*Laterallus jamaicensis coturniculus*	ST	Brackish marsh, freshwater marsh, swamp, wetland	A	Not Expected: no suitable habitat observed within Study Area.
California condor	*Gymnogyps californianus*	FE	Rocky cliffs for nesting/roosting, grasslands	A	Not Expected: no suitable habitat observed within Study Area.
California least tern	*Sternula antillarum browni*	FE	Nests near beaches close to river mouths, estuaries, and coastal embayments	A	Not Expected: no suitable habitat observed within Study Area.
Golden eagle	*Aquila chrysaetos*	---/FP	Broadleaf upland forest, cismontane woodland,	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
			Coastal prairie, pinon & juniper woodlands		
Least Bell's vireo	*Vireo bellii pusillus*	FE	Willow-dominated riparian woodlands, oak woodlands and chaparral	A	Not Expected: no suitable habitat observed within Study Area.
Marbled murrelet	*Brachyramphus marmoratus*	FT/SE	Majority of time on the ocean, forage areas near shore. Nests in old-growth forests	A	Not Expected: no suitable habitat observed within Study Area.
Purple martin	*Progne subis*	---/SSC	Broadleaf upland forest, lower montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	---/SSC	Marsh & swamp	A	Not Expected: no suitable habitat observed within Study Area.
Tricolored blackbird	*Agelaius tricolor*	---/SSC	Freshwater swamp, marsh, wetland	A	Not Expected: no suitable habitat observed within Study Area.
Western snowy plover	*Anarhynchus nivosus nivosus*	FT	Great basin standing waters, sand shore, wetland	A	Not Expected: no suitable habitat observed within Study Area.
White-tailed kite	*Elanus leucurus*	---/FP	Cismontane woodland, marsh & swamp, riparian woodland, wetland	A	Not Expected: no suitable habitat observed within Study Area.
Yellow-billed Cuckoo	*Coccyzus americanus*	FT	Wooded habitat with dense cover and water nearby, , thickets along streams and marshes	A	Not Expected: no suitable habitat observed within Study Area.
Yellow rail	*Coturnicops noveboracensis*	---/SSC	Freshwater marsh, meadows & seep	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Reptiles					
Northwestern pond turtle	*Actinemys marmorata*	PT	Streams, ponds, lakes, ephemeral wetlands, and terrestrial habitats for nesting	A	Not expected: no suitable habitat observed within Study Area.
San Francisco garter snake	*Thamnophis sirtalis tetrataenia*	FE	Aquatic and freshwater habitat, ponds, creeks, marshes, canals. Grassy areas near water, underground rodent burrows or rocks	A	Not expected: no suitable habitat observed within Study Area.
Amphibians					
California red-legged Frog	*Rana draytonii*	FT	Streams, marshes, estuaries, and ponds with still water for breeding. Upland areas for food and shelter when stream flow levels are high.	HP	Low: Riparian habitat and connectivity adjacent to Study Area; temporary pooling seasonally.
California tiger salamander	*Ambystoma californiense pop.1*	FT/ST	Cismontane woodland, meadow & seep, riparian woodland, valley and foothill grassland, vernal pool, wetlands	A	Not expected: no suitable breeding habitat observed within Study Area.
Foothill yellow-legged frog	*Rana boylii*	FT	Foothill mountain streams, valley-foothill riparian, mixed conifer, chaparral, and wet meadows	A	Not expected: no suitable breeding habitat observed within Study Area.
Santa Cruz black salamander	*Aneides niger*	---/SSC	Shallow standing seeps, wetland, creeks	A	Not expected: no suitable breeding habitat observed within Study Area
Santa Cruz long-toed salamander	*Ambystoma macrodactylum corceum*	FE/SE	Freshwater marsh, swamp, wetland. Breeds in freshwater marshes	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Mammals					
American badger	*Taxidea taxus*	---/SSC	Alkali marsh, alpine, brackish marsh, broadleaf upland forest, cismontane woodland	A	Not Expected: no suitable habitat observed within Study Area.
Pallid bat	*Antrozous pallidus*	---/SSC	Chaparral, coastal shrub, desert wash, riparian woodland, upper montane coniferous forest	A	Not Expected: no suitable habitat observed within Study Area.
Townsend's big-eared bat	*Corynorhinus townsendii*	---/SSC	Broadleaf upland forest, chaparral, Joshua tree woodland, lower montane coniferous forest, riparian forest	A	Not Expected: no suitable habitat observed within Study Area.
San Francisco dusky-footed woodrat	*Neotoma fuscipes annectens*	---/SSC	Chaparral, Redwood	HP	Present within Study Area.
Fishes					
Coho Salmon Central CA Coast ESU		FE/SE	Aquatic	A	None. No suitable habitat within Study Area.
Eulachon	*Thaleichthys pacificus*	FT	Aquatic, flowing waters	A	None. No suitable habitat within Study Area.
Steelhead - Central CA Coast DPS		FT	Aquatic, flowing waters	A	None. No suitable habitat within Study Area.
Tidewater goby	*Eucyclogobius newberryi*	FE	Aquatic, flowing waters	A	None. No suitable habitat within Study Area.
Invertebrates					
Crotch's bumblebee	*Bombus crotchii*	SCE	Undisturbed soils, rodent burrows, native bunchgrass structure	A	Not Expected: no suitable habitat observed within Study Area.
Western bumblebee	*Bombus occidentalis*	SCE	Undisturbed soils, rodent burrows, native bunchgrass structure	A	Not Expected: no suitable habitat observed within Study Area.

Common Name	Scientific Name	Status FED/CA/Other	Habitat	Habitat Present (HP) /Absent (A)	Potential Occurrence on Site
Monarch butterfly	*Danaus plexippus*	PT	Uses milkweed for breeding, dense eucalyptus, Monterey pine	A	Not Expected: no suitable habitat observed within Study Area.
Mount Hermon june beetle	*Polyphylla barbata*	FE	Chaparral and ponderosa pine with Zayante sandy soils, interior dunes	A	Not Expected: no suitable habitat observed within Study Area.
Ohlone tiger beetle	*Cicindela ohlone*	FE	Coastal prairie, sparse vegetation and openings	A	Not Expected: no suitable habitat observed within Study Area.
Smith's blue butterfly	*Euphilotes enoptes smithi*	FE	Coastal dunes, coastal shrub	A	Not Expected: no suitable habitat observed within Study Area.
Zayante band-winged grasshopper	*Trimerotropis infantilis*	FE	Openings in sand hills parkland habitat with Zayante sandy soils	A	Not Expected: no suitable habitat observed within Study Area.

Special-status wildlife species that are not expected to occur within the Study Area will not be discussed further in this report.

5.4.3 Migratory Birds

The Migratory Bird Treaty Act of 1918 (MBTA) decrees that migratory birds and their parts (including eggs, nests, and feathers) are federally protected. The MBTA is the domestic law that affirms, or implements, the United States commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. Each of the conventions protects selected species of birds that are common to these countries (i.e., they occur in these countries at some point during their annual life cycle). Certain birds are protected under the MBTA and the Bald and Golden Eagle Protection Act (BGEPA). Activities that result in take of migratory birds or eagles are prohibited unless permitted and authorized by the USFWS.

Based on the IPaC and CNDDB database review, Terracon identified the following migratory Birds of Conservation Concern (BCC) that may require evaluation for potential to occur in the Study Area. The species are listed in Table 5-3 below. Bald eagle and golden eagle are also protected under the BGEPA; however, suitable nesting or roosting habitat for these species is not present within the Study Area. Nesting seasons may vary annually and regionally; therefore, a conservative nesting bird season of January 1 through August 31 is typically assumed for project planning purposes.

Table 5-3. Migratory birds with potential to occur within the Study Area.

Common Name	Scientific Name	Status	Breeding Season
Allen's hummingbird	*Selasphorus sasin*	BCC	Feb 1 - July 15
Bald eagle	*Haliaeetus leucocephalus*	N/A	Jan 1 - Aug 1
Belding's Savannah sparrow	*Passerculus sandwichensis beldingi*	BCC	Apr 1 - Aug 15
Bullock's oriole	*Icterus bullockii*	BCC	Mar 21 - Jul 25
California gull	*Larus californicus*	BCC	Mar 1 - Jul 31
California thrasher	*Toxostoma redivivum*	BCC	Jan 1 - Jul 31
Common yellowthroat	*Geothlypis trichas sinuosa*	BCC	May 20 - Jul 31
Golden eagle	*Aquila chrysaetos*	N/A	Jan 1 - Aug 31
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Mar 20 - Sept 20
Northern harrier	*Circus hudsonius*	BCC	Apr 1 - Sept 15
Nuttall's woodpecker	*Dryobates nuttallii*	BCC	Apr 1 - Jul 20
Oak titmouse	*Baeolophus inornatus*	BCC	Mar 15 - Jul 15
Olive-sided flycatcher	*Contopus cooperi*	BCC	May 20 - Aug 21
Santa Barbara song sparrow	*Melospiza melodia graminea*	BCC	Mar 1 - Sept 5
Tricolored blackbird	*Agelaius tricolor*	BCC	Mar 15 - Aug 10
Western gull	*Larus occidentalis*	BCC	Apr 21 - Aug 25
Western screech-owl	*Megascops kennicottii cardonensis*	BCC	Mar 1 - Jun 30
Willet	*Tringa semipalmata*	BCC	Elsewhere: N/A
Wrentit	*Chamaea fasciata*	BCC	Mar 15 - Aug 10

Based on a review of readily available documentation for the Study Area including the IPaC report, CNDDB query, and aerial imagery, it appears that the Study Area contains suitable habitat for one or more of the above-mentioned migratory birds of concern.

6. Biological Survey Results/Impact Analysis

The current iteration of the proposed Project footprint, as displayed in Exhibit 1, places the solar array in an area primarily dominated by French broom thicket mixed with coyote brush scrub. This footprint would result in impacts on small patches of oak woodland, however, it would avoid impacts on needlegrass grassland (east of the footprint) which has a state rarity rank of S3S4 and a global rarity rank of G3G4. Though oak woodland is considered sensitive habitat under SCCC 16.32, the proposed Project footprint would avoid all impacts to needlegrass grassland (east of the footprint).

The access route leading in from the western edge of the property primarily impacts annual grassland areas dominated by nonnative species with minor impacts on oak woodland near the western edge of the proposed solar panel array. When presented with two options for staging areas, Terracon biologists selected the current location based on the nonnative annual grassland present at that location.

The following section describes the results of the field reconnaissance surveys and analysis of impacts to common and sensitive vegetation and wildlife:

6.1 Vegetative Communities

Within the proposed Project footprint area, there are three (3) vegetation types with potential to be impacted by construction: French broom thicket/coyote brush scrub, annual grassland, and oak woodland. A majority of the proposed Project footprint is located in areas mapped as French broom thicket/coyote brush scrub.

6.1.1 French Broom Thicket/Coyote Brush Scrub

Potential impacts on French broom thicket/coyote brush scrub would involve the removal of vegetation that is dominated by approximately 70% cover of the nonnative, invasive French broom. It is the opinion of Terracon botanists that this vegetation community is the least sensitive of the vegetation within the Study Area due to the invasive species cover and lack of suitable habitat for sensitive plant and wildlife species.

6.1.2 Needlegrass Grassland

No impacts on needlegrass grassland are anticipated under the current proposed Project footprint.

6.1.3 Annual Grassland

Impacts on annual grassland areas may include soil compaction and/or vegetation removal in areas planned for access routes and staging areas. A small area of annual grassland is located near the southwest corner of the proposed solar array and will be impacted under the proposed Project footprint.

6.1.4 Oak Woodland

Approximately 0.5 acres of oak woodland habitat would be impacted within the current proposed Project footprint. Impacts on oak trees directly under the solar array footprint may be unavoidable under the current proposed Project footprint. A follow-up survey detailing the inventory of oak trees within the

finalized Project footprint is recommended prior to construction; the survey would include GPS locations of the trees and DBH measurements for each individual oak tree.

6.1.5 Rush-Sedge Meadow

No impacts on rush-sedge meadow are anticipated under the current proposed Project footprint.

6.1.6 Nonnative Trees

There is a grove of nonnative trees in the northeast corner of the Study Area (mainly *Acacia* sp.). If the proposed Project footprint is approved as is, this area could provide a suitable area to mitigate for potential oak woodland impacts. Restoration of this area is discussed further in Section 7.

6.2 Wildlife

6.2.1 Common Wildlife

The Study Area has the potential to support a variety of common wildlife species, as outlined in Section 5.3. Project activities involving vegetation removal, ground-disturbance, and construction noise have the potential to temporarily displace common wildlife species. However, these impacts are not expected to be significant, as the species observed are regionally abundant and the surrounding landscape provides suitable habitat for foraging, cover, and dispersal.

6.3 Sensitive Biological Resources

6.3.1 Special-Status Wildlife Species

Migratory Birds

The Study Area includes vegetation that may provide suitable nesting or foraging habitat to common native bird species protected under the MBTA. Although no active nests were observed during the site visit, Project activities conducted during the nesting season (generally January through August) have the potential to directly or indirectly impact nesting birds. Therefore, nesting bird surveys and protective nest buffers are recommended prior to Project activities. Avoidance and minimization measures for nesting birds are provided in Section 7.

California Red-legged Frog

California red-legged frog has potential to occur in the Study Area due to the presence of riparian habitat and seasonal pooling in areas adjacent to the Project footprint. This species is known to use upland habitats for seasonal dispersal and refuge. The Study Area consists primarily of upland habitat of marginal quality, and does not contain ponds, wetlands, or other aquatic features suitable for breeding. Zayante Creek is a stream located on the adjacent parcel, approximately 440 feet to the southwest of the Study Area. Although the Study Area lacks suitable habitat to support California red-legged frog populations, the aquatic features in proximity to the upland refugia causes for low potential for occurrence. Therefore, California red-legged frog is not likely to occur within the Study Area and Project activities are not anticipated to impact California red-legged frog.

California red-legged frog is listed as a Threatened species under the federal Endangered Species Act (50 CFR §17.11(h)). Take of federally listed species is prohibited under the ESA unless authorized by the U.S. Fish and Wildlife Service (USFWS, 16 U.S.C. §1538(a)(1)(b)).

San Francisco Dusky-footed Woodrat

Terracon identified presence of three (3) potentially active woodrat nests within the Study Area during the field reconnaissance survey. A qualified biologist shall evaluate the observed nests prior to the onset of construction, vegetation removal, or ground disturbance to determine if nests are active or inactive. If active nests are confirmed, they should be avoided with an appropriate no-disturbance buffer, as determined by the qualified biologist and CDFW should be notified immediately. Avoidance, minimization, and mitigation measures may be required if nests are found active. Implementation of these measures would reduce impacts on San Francisco dusky-footed woodrats to a less-than-significant level.

San Francisco dusky-footed woodrats are protected under California Fish and Game Code Section § 4150. Under this statute, nongame mammals may not be taken or possessed except as authorized by the Fish and Game Code or regulations adopted by the Fish and Game Commission; therefore, disturbance or removal of woodrats or their nests without authorization from the California Department of Fish and Wildlife could constitute unlawful take (California Fish and Game Code § 4150).

6.3.2 Special-Status Plants

Special-status plant species include those listed as threatened or endangered by either federal or state agencies as well as those identified as rare by CNPS. While there are no records of special-status plants occurring within the Study Area, there are many species with potential to occur nearby. Many of these plants require soil types and conditions found in sand hills or chaparral habitat, which were not observed within the Study Area. Terracon therefore considers the Study Area not suitable for species that require sand hills or chaparral habitat.

Four (4) special-status plant species were determined to have low potential to occur in the Study Area: Santa Cruz tarplant, deceiving sedge, marsh microseris, and San Francisco popcorn flower. Areas mapped as needlegrass grassland and rush-sedge meadow have the highest potential to support these species (Exhibit 1).

Terracon recommends a botanical survey be conducted during April or May when these species will be identifiable in order to determine presence or absence within the Study Area.

7. Recommendations

7.1 Avoidance and Minimization Measures

Avoidance and minimization measures described below may offset potentially significant impacts on biological resources. Under the current iteration of the proposed Project footprint, Terracon provides the following recommendations for consideration in consultation with the appropriate agencies:

Nesting Birds

Nesting bird surveys are recommended for migratory birds prior to Project activities. In the event an active nest is observed, an appropriate buffer should be established, and a biological monitor may be required. To avoid potential impacts on nesting birds associated with the proposed Project, the following measures are recommended:

- Ground disturbance activities and vegetation removal should occur outside of the avian nesting season (January through August) to the extent feasible.
- If construction activities and noise occur during the nesting season, all suitable habitats within 100 feet of the Project footprint shall be surveyed for the presence of nests by a qualified biologist no more than five (5) days before commencement of any vegetation removal or other ground disturbance. If it is determined that the Project footprint is occupied by nesting birds, protective measures shall be implemented as described below.
- If active nests are identified, the qualified biologist will determine buffer distances based on species, nest location, and activity. No grading, vegetation removal, or heavy equipment activity shall take place within 300 feet of non-raptor nests, and 500 feet of raptor nests, or as determined by a qualified biologist. Protective measures (e.g., sampling) shall be required to ensure compliance with the California Fish and Game Code requirements.
- The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts occur.
- A report of the findings prepared by a qualified biologist shall be submitted to the County prior to construction-related activities that have the potential to disturb any active nests during the nesting season.

Additionally, the pre-construction nesting bird surveys described above shall provide avoidance of impacts on federally and state-listed species of concern. Listed bird species are not likely to nest within the Study Area during anticipated construction activities; however, they may use portions of the site temporarily for foraging. In the unlikely event a listed species is identified, avoidance and minimization measures described above shall be implemented.

Take-Avoidance Surveys for Special-Status Species

Of the special-status species evaluated, California red-legged frogs have low potential to occur within the Study Area. To avoid, minimize, and mitigate impacts, the following measures are recommended:

- Pre-construction surveys shall be conducted to determine the presence of special-status species no more than ten (10) days before commencement of any vegetation removal or other ground disturbance.
- If take-avoidance surveys result in the observation of special-status species within the Project footprint, vegetation clearing and ground disturbing activities will be prohibited in the area where the signs of the species were found.

- The Lead Agency (Santa Cruz County) and appropriate wildlife agency (CDFW and/or USFWS) shall be contacted immediately to formulate a strategy for avoidance or minimization of impacts on individuals of the observed species.

Several special-status plant species including deceiving sedge, marsh microseris, San Francisco popcorn flower, and Santa Cruz tarplant have low potential to occur withing the Study Area. Additionally, sensitive habitats oak woodland and needlegrass grassland are confirmed to be present within the Study Area. To avoid, minimize, and mitigate impacts, the following measures are recommended:

- Prior to establishing an access route, a qualified biologist shall flag the rush-sedge meadow boundary to avoid impacts on this vegetation community, that may contain sensitive plant species and may provide refugia to amphibians during the wet season.
- A qualified biologist shall work alongside crews when establishing an access route that minimizes impacts to significant trees to comply with Santa Cruz County Code (SCCC) 16.34. These include trees equal to or greater than 20 inches DBH, or any sprout clump of five or more stems which is greater than 12 inches DBH, or any group of five or more trees where each is greater than 12 inches DBH.
- A qualified biologist shall flag the boundary of the needlegrass grassland with a ten-foot buffer to avoid any Project impacts on this area.
- A qualified biologist shall conduct a meandering transect survey with particular emphasis in needlegrass grassland and rush-sedge meadow vegetation types for the sensitive plant species with low potential to occur on the Project site in the appropriate bloom window prior to the onset of construction. Out of an abundance of caution, Terracon recommends all grassland areas (annual grassland, needlegrass grassland, and rush-sedge meadow) be surveyed throughout the study area in April or May to determine presence or absence of sensitive plant species.
    - In the case that any special status plant species are detected, individuals should be flagged and a minimum 25-foot avoidance buffer flagged around the occurrence.
- An inventory of oak trees within the finalized Project footprint shall be conducted by a qualified biologist or arborist and shall include GPS location of the trunk and DBH measurements for each individual.

Biological Awareness Training

In the event of an observation of a special-status species or nesting migratory bird species within the Study Area, prior to construction activities, a qualified biologist shall initiate a Worker Environmental Awareness Program (WEAP) designed to educate on-site workers about critical environmental concerns associated with the Project. This training shall be mandatory for on-site personnel and will be conducted prior to vegetation removal or ground-disturbing activities. This training shall place particular emphasis on educating participants about the protected species that may potentially be present within the Study Area, including but not limited to the California Red-legged Frog, San Francisco dusky-footed woodrat, other potentially-occurring special-status plant species, and nesting birds.

The program shall include the following elements:

- A presentation, either developed by a qualified biologist or in consultation with one, which shall address the sensitive biological resources that may be present within the Study Area. It shall also clarify the rationale behind safeguarding these resources and the consequences of non-compliance.
- Brochures or booklets that contain written descriptions, photographs of protected species, and a comprehensive list of site rules related to the protection of biological resources. These materials shall be distributed to all participants in the WEAP.
- Contact information for the Project's biological monitor, along with clear instructions for participants to contact the monitor with inquiries concerning the WEAP presentation or booklets.

The client shall bear the responsibility for ensuring all on-site personnel receive the WEAP training throughout the entire Project. A training log shall be maintained within the Study Area and signed by on-site personnel immediately after WEAP training to document compliance with this requirement.

Biological Monitor

In the event of an observation of a special-status species or nesting migratory bird species within the Project site, prior to Project activities, a qualified biologist shall be designated as the biological monitor. This monitor shall be required to be on site at all times during activities involving vegetation clearance or ground disturbance. Their primary responsibility shall be to ensure that potential impacts on biological resources are either avoided or minimized to the greatest extent possible.

Once the Project approaches a phase where it is determined by the biological monitor that biological resources are no longer present, as determined by their expertise, they may request a reduction or discontinuation of biological monitoring in that specific area.

The biological monitor shall be vested with the authority to halt specific Project activities if they suspect violations of avoidance or minimization measures or if there are concerns about compliance with local, state, or federal laws. This authority is essential for the protection of biological resources and adherence to regulatory requirements.

General Wildlife Protection Measures

If additional sensitive species are observed during pre-construction surveys, the Lead Agency and CDFW and/or USFWS (as applicable) shall be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the "take" of a sensitive species and can approve the implementation of applicable mitigation measures.

Although special-status wildlife species are not expected to occur within the Study Area, it is possible that protected wildlife species may be encountered during construction activities. To promote compliance with wildlife protection regulations, the following measures are recommended:

- Construction materials including pipes and debris shall be stored appropriately to reduce risk of potential wildlife entrapment or sheltering (cap pipes and avoid prolonged ground contact where feasible).

- Temporary pools within the active construction zone shall be avoided to the extent feasible, including ingress and egress routes, and staging areas.

Planned Habitat Restoration for Unavoidable Impacts

If the proposed Project is expected to result in unavoidable impacts, Terracon recommends the following restoration measures:

- Revegetation of native tree species at appropriate mitigation ratios (2:1 or 3:1) per the County's requirements.
- Revegetation of oak trees in areas of the property where non-native *Acacia* sp. currently occur, especially the northeast corner of the property at the top of the slope that borders Mt. Hermon Road. Removal of *Acacia* sp. prior to oak tree planting is strongly recommended.

Invasive Species Management of French Broom

Regardless of impacts on existing vegetation resources, Terracon recommends incorporating best practices for invasive species management of French broom to prevent the further spread of the species beyond where it currently occurs. Under the proposed Project footprint, vegetation removal will be required prior to construction. If best management practices for removal are not adhered to, French broom could spread into surrounding areas during or after vegetation removal.

Terracon recommends the following best practices for removal and management of French broom outlined in the *Tips for Getting Rid of French Broom* document provided by the Resource Conservation District of Santa Cruz County. This document has been attached to this report as **Appendix C**.

7.2 Discussion

Terracon biologists reviewed several iterations of proposed project plans and worked alongside the client to modify the proposed project footprint to reduce impacts on sensitive vegetation communities present within the Study Area. Terracon recommends revegetation of oak trees as mitigation for impacts on oak woodland habitat for compliance with the Sensitive Habitat Protection Ordinance (SCCC 16.32). Despite consideration as a sensitive habitat, oak woodland restoration projects are commonplace and generally have high success rates compared to the complexity of restoring or mitigating for potential loss of intact native grassland, such as the Needlegrass Grassland habitat within the Study Area.

Intact native grasslands are amongst the most threatened plant communities in California, and approximately 90% of California's rare and endangered plant species occur within grassland ecosystems (D'Antonio et al. 2003). Native grassland habitat loss in Santa Cruz County has been well documented, as have the challenges and complexities of restoring native grasslands compared to other ecosystems (Holl et al. 2014, Stromberg et. al, 2001). It is Terracon's opinion that that current proposed project alternative which includes mitigation for impacts on approximately 0.5 acres of oak woodland is preferable compared to an alternative that would impact native needlegrass grassland, a sensitive habitat that is more difficult to restore.

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Appendix A – Exhibits

Exhibit 1 – Biological Resources Map

Exhibit 2 – CNDDB Occurrence Maps



Property Boundary (approx.)
Proposed Solar Panel Footprint
Access Route
Staging Area (Opt 1)
Ephemeral drainage

Sensitive Biological Resources
Needlegrass grassland
Oak woodland
Rush-sedge meadow
Woodrat nest

0 75 150 300 Feet
1:2,350

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	K2257035
Date:	Feb 2026
Drawn By:	JRS
Reviewed By:	KC

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1900 Garden Road, Suite 210 Monterey, CA 93940
PH. (831) 574-7012 terracon.com

BIOLOGICAL RESOURCES MAP

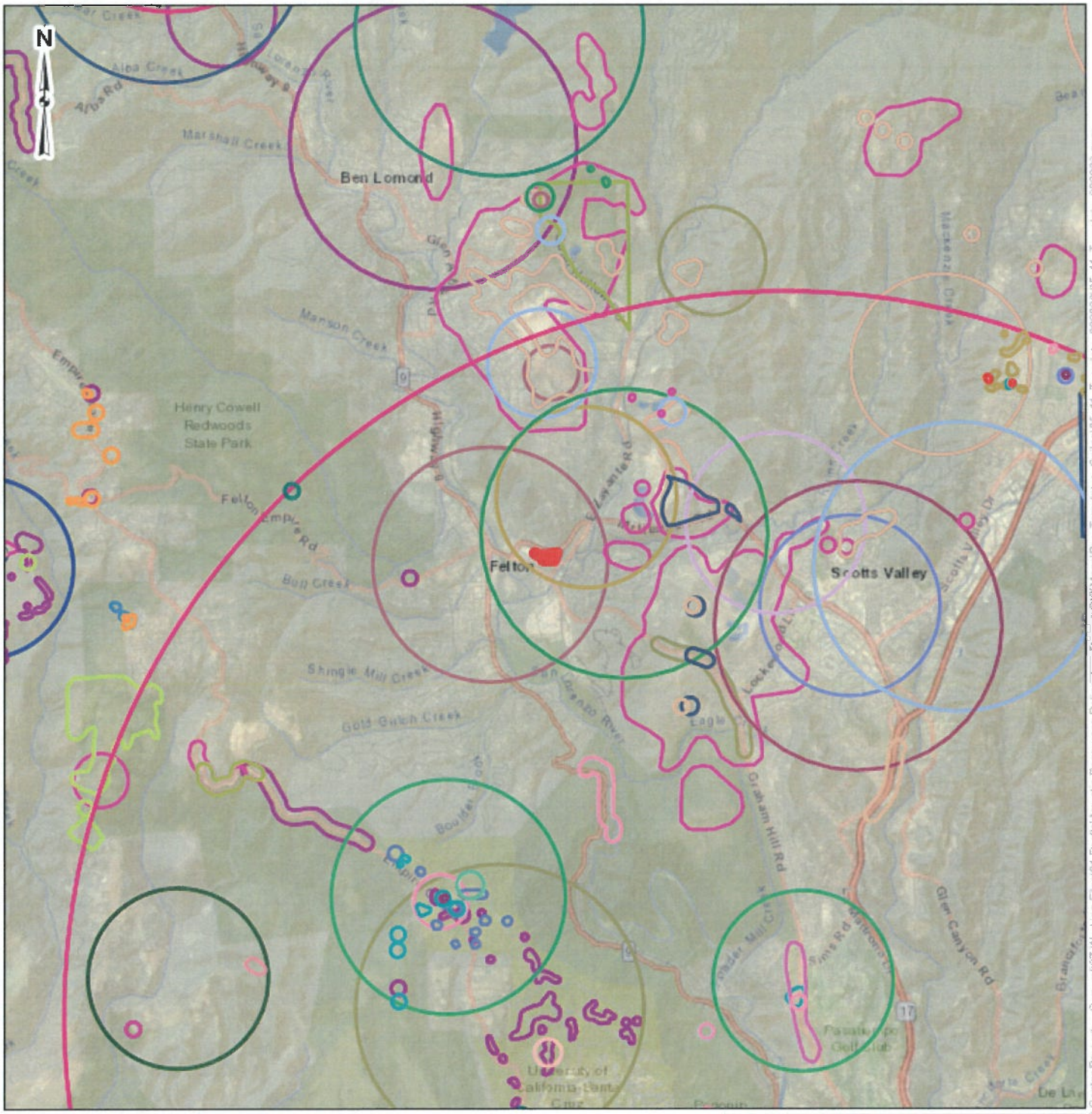
Biotic Report

Conference Drive Solar Project
Felton, CA

Exhibit

1

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Legend

- Study Area (3.02 ac)

Plants (Common Name)

- Anderson's manzanita
- Ben Lomond buckwheat
- Ben Lomond spineflower
- Bonny Doon manzanita
- Choris' popcornflower
- Humboldt County milk-vetch
- Kellogg's horkelia
- Pacific Grove clover
- Point Reyes horkelia
- San Francisco popcornflower
- Santa Cruz Mountains beardtongue
- Santa Cruz Mountains pussypaws
- Santa Cruz clover
- Santa Cruz cypress
- Santa Cruz microseris
- Santa Cruz tarplant
- Santa Cruz wallflower
- Scotts Valley polygonum
- Scotts Valley spineflower
- bristly sedge
- chaparral ragwort
- deceiving sedge
- marsh microseris
- marsh sandwort
- minute pocket moss
- northern curly-leaved monardella
- robust spineflower
- slender silver moss
- swamp harebell
- tear drop moss
- white-rayed pentachaeta
- woodland woolythreads

0 0.5 1 2 Miles

1:63,360

DATA SOURCES:
ESRI WMS - World Imagery, World Street Map
California Natural Diversity Database (CNDDB) (CDFW, 2026)

Project No.:	K2257035
Date:	Jan 2026
Drawn By:	AAG
Reviewed By:	JHW

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PH. (831) 717-4320 terracon.com

CNDDB OCCURRENCE MAP

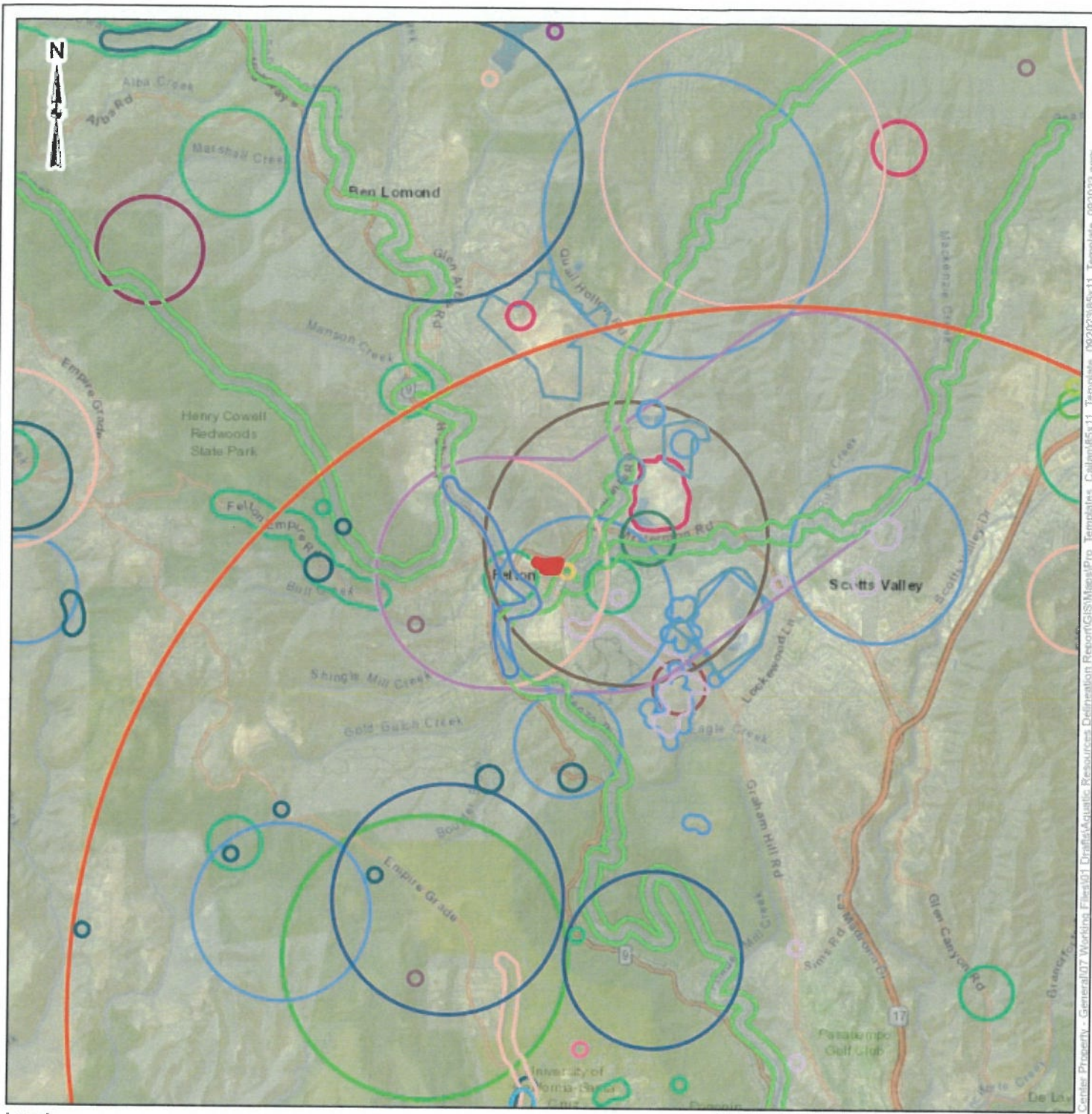
Biotic Report

Conference Drive Solar Project
Felton, CA

EXHIBIT

2a

C:\Users\aaguirre\OneDrive - Terracon Consultants, Inc\NB\247273\Center Property - General\07 Working Files\01 Drafts\Aquatic Resources Delineation Report\GIS\Mxds\Pro Templates\ CalEnv8.5x11 Template 09202021.mxd 9/20/2021 8:57:11 AM



Legend

- Study Area (3.02 ac)

Wildlife (Common Name)

- American badger
- Antioch specid wasp
- Behrens' small-eating beetle
- California giant salamander
- California red-legged frog
- Cooper's hawk
- Doloff Cave spider
- Empire Cave amphipod
- Empire Cave pseudoscorpion
- Mackenzie's Cave amphipod
- Mount Hermon (=barbate) June beetle
- Ohlone tiger beetle
- Opler's longhorn moth
- Santa Cruz black salamander
- Santa Cruz kangaroo rat
- Smith's blue butterfly
- Zayante band-winged grasshopper
- coho salmon - central California coast ESU
- foothill yellow-legged frog - central coast DPS
- hoary bat
- marbled murrelet
- northwestern pond turtle
- obscure bumble bee
- osprey
- steelhead - central California coast DPS
- western bumble bee
- western pearlshell
- white-tailed kite
- yellow rail

DATA SOURCES:
ESRI WMS - World Imagery, World Street Map
California Natural Diversity Database (CNDDB) (CDFW, 2026)

Project No.:	K2257035
Date:	Jan 2026
Drawn By:	AAG
Reviewed By:	JHW

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PH. (831) 717-4320 terracon.com

CNDDB OCCURRENCE MAP

Biotic Report

Conference Drive Solar Project
Felton, CA

EXHIBIT

2b

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Appendix B – Plant Species List

This list contains species observed on January 8, 2026 at the Conference Drive Study Area in Felton, CA

Scientific Name	Common Name	native/nonnative	special status	veg community
Acacia sp.	Acacia	nonnative	N/A	NNT
Acer negundo	box elder	native	N/A	OW
Arbutus menziesii	pacific madrone	native	N/A	OW
Avena barbata	slender wild oat	nonnative	N/A	AG
Baccharis pilularis	coyote brush	native	N/A	FBT/CBS
Bromus diandrus	ripgut brome	nonnative	N/A	AG
Bromus hordeaceus	soft chess	nonnative	N/A	AG
Carduus sp.	thistle	nonnative	N/A	AG
Carex praegracilis	clustered field sedge	native	N/A	RSM
Carex sp.	sedge	N/A	N/A	RSM, OW
Carex tumulicola	split awn sedge	native	N/A	RSM
Chlorogalum pomeridianu	soap root	native	N/A	NGG
Cyperus eragrostis	tall flat sedge	native	N/A	RSM, OW
Epipactis helleborine	broadleaf helleborine	nonnative	N/A	OW
Erigeron canadensis	horseweed	native	N/A	AG
Festuca sp.	fescue	N/A	N/A	AG
Gallium aparine	bedstraw	native	N/A	OW
Genista monspessulana	French Broom	nonnative	N/A	FBT/CBS
Geranium dissectum	cutleaf geranium	nonnative	N/A	AG
Geranium sp.	geraniums	N/A	N/A	AG, OW
Holcus lanatus	velvet grass	nonnative	N/A	AG
Juncus patens	spreading rush	native	N/A	RSM, OW
Juncus sp.	rushes	native	N/A	RSM, OW
Lysimachia arvensis	scarlet pimpernel	nonnative	N/A	AG
Malus domestica	apple tree	nonnative	N/A	OW
Mara fabacea	wild cucumber	native	N/A	OW
Pteridium aquilinum	bracken fern	native	N/A	NNT, OW
Quercus agrifolia	coast live oak	native	N/A	OW
Ranunculus californicus	california buttercup	native	N/A	RSM, OW
Rubus ursinus	california blackberry	native	N/A	OW
Rumex acetosolla	sheep sorrel	nonnative	N/A	AG
Rumex crispus	curly docks	nonnative	N/A	RSM
Sambucus sp.	elderberry	native	N/A	FBT/CBS, NNT
Sanicula crassicaulis	pacific sanicle	native	N/A	OW, NNT, FBT/CBS
Stellaria media	chickweed	nonnative	N/A	AG
Stipa sp.	needlegrass	native	N/A	NGG
Taraxia ovata	sun cups	native	N/A	NGG
Trifolium angustifolium	narrow leaved clover	nonnative	N/A	AG
Trifolium sp.	clovers	N/A	N/A	AG
Umbellularia californica	California bay	native	N/A	OW
Vicia sp.	vetch	nonnative	N/A	AG
Vinca sp.	periwinkle	nonnative	N/A	OW

veg community legend	
AG	annual grassland
FBT/CBS	French broom thicket/coyote brush scrub
OW	oak woodland
NGG	needlegrass grassland
RSM	rush-sedge meadow
NNT	nonnative trees

Appendix C – French Broom Removal and Management

Tips for Getting Rid of French Broom

French Broom Biological Info



Almost all the broom plants found in north Santa Cruz County are French broom (*Genista monspessulana*). Therefore, this discussion will address only French broom. French broom is a woody, perennial shrub with an average lifespan of 12-15 years. It has significantly more leaves when compared to Scotch or Portuguese broom. Frost or drought may cause branches to die, but the plants often resprout from the stem. French broom has deep taproots and may have branched roots depending on local conditions or plant disturbance, such as cutting or mowing.

French broom may flower throughout much of the year in mild climates, but mostly flowers in the spring & early summer. Seed pods are 0.75"-1.25" in length, hairy and usually contain 5-8 seeds which burst apart in the summer and send seeds outward from the plant as far as six feet. Seed can remain viable for a very long time.

There are two main schools of thought on treating French broom. The first is to minimize soil disturbance to limit flushes of new seedlings at any given time. This usually only works in areas with very little or no disturbance and usually is ineffective over time. The second is to disturb the soil during the removal to increase the initial flushes of seedlings and more rapidly deplete the French broom seed bank. The latter is recommended, but does require adequate follow up for a few years.

With all control methods, care should be taken to prevent damage to desirable plants and plant seedlings and limit erosion potential.

Some of these methods are not appropriate in the sandhills or areas with protected species or fragile habitat.

Hand Removal (includes use of a weed wrench)

Timing

The best time to pull French broom is prior to flowers forming. The ground is softer and often the plants are smaller. If plants are removed after they have gone to flower and started to form seed pods, control of new seed is important. Once seedpods have formed, pull it, place it on tarps and take it to the landfill. If this is not a viable option, place the pulled plants in moderate sized piles away from desirable plants. This limits the spread of new seed to small areas.

Treatment Methods



Cut completely around the stem

Pulling French broom and removing the roots is best. Hand removal is easiest when the ground is wet, but not saturated. However, hand removal by hand pulling or with a Weed wrench can succeed even in the late summer and fall.

Cutting. If you cannot remove the roots due to site conditions (soil, rocks, slope stability, buildings, etc), you can cut around or below the root crown with a knife or any sharp tool. You must cut completely around the stem to interrupt vascular movement.

Cutting French broom above the root crown is not usually recommended. If cutting is your only practical choice, you should choose a method based on when you plan to revisit the area. With any cutting, you should remove all seed pods for disposal. If off-site disposal is not possible, place all cut broom and seed pods into piles to contain new seed within the pile vicinity.

- Cut the plant 1-2 feet above the soil and remove all branches below the cut. Although this allows more initial resprouting, it reduces the risk of injury to animals or humans, allows you to find the cut stems later and increases future treatment options.
- In the mid-summer to fall, prior to the rain, cut French broom at the ground level. Although some resprouting should be expected, low nutrient and moisture levels should reduce resprouts

Additional treatment methods for seedlings

Flaming. To do flaming correctly and safely requires a level of training and equipment. Unless you have had this training and have the proper equipment, the treatment may not be effective and there is a risk of fire or injury.

Weed wacking or hoeing. These methods can be somewhat effective if the seedlings are small enough. Both will require that you weed wack or hoe at the ground level resulting in some upper-level soil disturbance.

Herbicides

Although there are a large number of herbicides on the market, many are not available to the general public and/or have toxicity issues for some species of animals and humans. Often, they require special gear or training. Alternately, herbicides called "organic or environmentally friendly" are mostly contact herbicides and only damage areas of the plant they contact directly. They are generally ineffective at killing perennial plants and annual plants with significant root systems. Additionally, many of them have toxicity issues of their own in the concentrations required.

There are situations where herbicide is the most practical method and will result in the least environmental damage. However, most over the counter herbicides contain surfactants with varying levels of toxicity to some species of animal. Due to this and potential damage to desirable plant species, the use of herbicide should be limited as much as practical, especially with regard to the concentration, application method and when or where it is used.

The most commonly used herbicide is glyphosate. The glyphosate available to the general public contains surfactants with some additional level of toxicity. Under some conditions and applications glyphosate has toxicity and safety issues. Additionally, it is significantly overused, which can lead to plant resistance and reduce desirable plants and diversity. Despite this, if herbicide is used, glyphosate is the recommended choice by many professional land managers and experts. If the correct method of application is used and it is applied carefully and correctly, the risk from use of glyphosate can be greatly reduced, and in some cases eliminated.

The safest forms of glyphosate contain no added surfactant in the container. This allows the applicator to use glyphosate without any surfactant or to add an application specific non-ionic surfactant and/or additive, which can be much safer for humans and the environment. However, these forms of glyphosate are usually not available to the general public and require a state pesticide applicator license. Because of the likelihood of a more effective and less damaging application due to professional training and experience, it is recommended that you hire an environmentally responsible state licensed Pesticide applicator to apply the herbicide.

Examples of glyphosate without toxic surfactants include: Rodeo©, Aquamaster©and Roundup Custom for Aquatic Habitats©. All 3 of these products are 53.8% glyphosate.

Treatment Methods

Cut and Paint application (for invasive woody stemmed plant species, such as French broom). The glyphosate concentration should be 25% to 50%. So, if using one of the above examples, use full strength or 50:50 mix with water.



For larger stems you only need to treat the cambium layer.

- No surfactant is usually needed.
- Dye should be added to the herbicide to track the application coverage.
- Herbicide should be brought on site in new, sealed containers.
- All application containers should be filled and stored within an appropriate, specific area to reduce any possibility of contamination or spillage.
- Work should be monitored and periodically adjusted, as necessary.
- The cut should be within 2-3" of the ground and as close to horizontal as practical, to reduce the risk of dripping.
- Herbicide should be applied within 1 minute of making the cut, but no later than 2 minutes, after the cut.

On small plants paint the whole stem cross section. On larger plants, paint only the plant cambium layer area. For plants with stem diameter of roughly one centimeter or less (1/3" or less), higher rates of resprouts may be observed. At this size, pulling can be more efficient and faster than cut and paint.

Applications should be done with specific equipment to greatly reduces the risk of dripping or spillage. It's recommended to use dabbers with medium-hard, felt tipped applicators for stems under 2" and 1" paint brushes for plants with larger stems.

Spray application. Spray to French broom seedlings, larger plants or when applying herbicide to the stems.

It is strongly recommended that herbicide spray on any scale be completed by an environmentally focused licensed pesticide applicator. This is due to the potential risk of environmental contamination, harm to animals, damage to desirable plant species, human safety concerns and the potential for long-term negative effects.

This information was provided by George McMenamin, a restoration and invasive plant management consultant in Santa Cruz County, California.

RESOURCE
CONSERVATION DISTRICT
OF SANTA CRUZ COUNTY

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Appendix B. Geotechnical Report

Geotechnical Investigation for Proposed Solar Array, Dees & Associates. August 2024.

GEOTECHNICAL INVESTIGATION
For
PROPOSED SOLAR ARRAY
Conference Drive, Felton
APN 071-331-06
Santa Cruz County, California

Prepared
For
NEWGEN ENERGY
Rocklin, California

Prepared By
DEES & ASSOCIATES, INC.
Geotechnical Engineers
Project No. SCR-1898
AUGUST 2024

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street, Suite 8A Santa Cruz, California 95060 Phone (831)427-1770 www.deesgeo.com

August 27, 2024 Project No. SCR-1898

NEWGEN ENERGY
555 Menlo Drive, Suite A
Rocklin, California 95765

Attention: Cody Weber

Subject: Geotechnical Investigation

Reference: Proposed Solar Array
Conference Drive, Felton
APN 071-331-06
Santa Cruz County, California

Dear Mr. Weber:

As requested, we have completed a geotechnical investigation for the solar array project proposed at the referenced site.

This report presents the results, conclusions and recommendations of our investigation. If you have any questions regarding this report, please call our office.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L Dees

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623



Copies: 1 to Addressee

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GEOTECHNICAL INVESTIGATION

Introduction

This report presents the results of our geotechnical investigation for the new solar array proposed on Conference Drive, APN 071-331-06, in Felton, California.

Purpose and Scope

The purpose of our investigation was to explore and evaluate surface and near surface soil conditions in the vicinity of the proposed solar panels and develop geotechnical recommendations for design and construction of the proposed slope repair.

The specific scope of our services was as follows:

1. Site reconnaissance and review of available data in our files regarding the site and region.

2. Exploration of subsurface conditions consisting of logging and sampling of four (4) exploratory borings drilled between 14.5 and 21.5 feet deep.

3. Laboratory testing of collected soil samples.

4. Engineering analysis and evaluation of the resulting field and laboratory test data. Based on our findings, we have developed geotechnical design criteria for the solar panel foundations and general site grading and drainage.

5. Preparation of this report presenting the results of our investigation.

Project Location and Description

The 8.8-acre site is located at the intersection of Conference Drive and East Zayante Road in Felton, California, Figure 1. The undeveloped site is bordered by East Zayante Road and Conference Drive to the south, Mount Herman Road to the north, single family residences to the east and undeveloped land to the west. The property wraps around the southern nose of a north-south trending ridgeline and the topography generally consists of a moderately sloping ridgeline with steep side slopes that becomes less steep as you move to the south until the slopes are nearly flat as you approach Conference Drive. The ridgeline is inclined at about a 20 to 30 percent slope gradient to the south. The east and west side slopes of the ridge are inclined at about 30 to 40 percent. See Figure 2 for the regional topography at the site.

The project consists of installing a solar array that wraps around the nose of the ridge. The slopes in the vicinity of the proposed solar array vary from about 5 to 30 percent. See Figure 3.

Field Investigation

Subsurface conditions in the vicinity of the solar array were explored on 31 July 2023 with four (4) exploratory borings drilled with 6-inch diameter augers advanced with truck mounted drilling equipment. The exploratory borings were drilled 14.5 to 21.5 feet deep. The approximate

locations of the exploratory borings are indicated on Figure 3. We were only able to access a portion of the proposed building area with our truck mounted drill rig due to steep slopes in the upper portion of the building site. This report is based on the soil encountered in our borings. There is no warranty that the soils in others areas of the proposed solar array are similar to those encountered in our borings. We would be pleased to provide a proposal to perform additional borings with portable or track mounted drilling equipment if requested.

The soils observed in the test boring was logged in the field and described in accordance with the Unified Soil Classification System (D2487 and D2488), Figure 5. The Test Boring Logs denote subsurface conditions at the locations and times observed, and it is not warranted they are representative of subsurface conditions at other locations or times.

Representative soil samples were obtained from the exploratory boring at selected depths, or at major strata changes. These samples were recovered using the 3.0-inch O.D. Modified California Sampler (L) or the Standard Terzaghi Sampler (T). The penetration resistance blow counts for the (L) and (T) noted on the boring logs were obtained as the sampler was dynamically driven into the in-situ soil. The process was performed by dropping a 140-pound hammer a 30-inch free fall distance and driving the sampler 6 to 18 inches and recording the number of blows for each 6-inch penetration interval. The blows recorded on the boring logs present the accumulated number of blows that were required to drive the last 12 inches. The blow counts indicated on the log have been converted to equivalent standard penetration test (SPT) values.

Laboratory Testing

The laboratory testing program was directed toward a determination of the physical and engineering properties of the soils underlying the site. Moisture content and dry density tests were performed on representative soil samples to determine the consistency of the soil and the moisture variation throughout the explored soil profile. Grain size analysis was performed to aid in soil classification. Atterberg Limits were performed to determine the soils relative shrink-swell potential. Direct shear tests were performed to evaluate the strength characteristics of the soils. The results of our field and laboratory testing appear on the "Test Boring Log", next to the sample tested.

Subsurface Soil Conditions

The Santa Cruz County Geologic Map indicates the site is underlain by both Alluvial deposits, undifferentiated (Holocene) and Monterey Formation (Middle Miocene), Figure 4. Alluvial deposits are described as, “Unconsolidated, heterogeneous, moderately sorted silt and sand containing discontinuous lenses of clay and silty clay. Locally includes large amounts of gravel”. The Monterey Formation is described as, “Medium to thick-bedded and laminated olive-gray to light-gray semi-siliceous organic mudstone and sandy siltstone”.

Boring 1 was drilled at the base of the slope near the southwest corner of the proposed solar array. Boring 1 encountered 2 feet of clayey sand at the ground surface and sandy clay to a depth of about 9 to 10 feet. Below 10 feet the sandy clay transitioned into a clayey sand with the sand content increasing with depth. The soils were medium dense/stiff and damp to moist throughout

the boring. Boring 4, drilled at the base of the slope near the southeast corner of the solar array encountered medium dense/stiff sandy clay/clayey sand over medium dense clayey sand. The soil was gravelly and dense at 16 feet. Groundwater was encountered at 15 feet.

Boring 2 was drilled at the edge of the ridgeline further up the slope and encountered about 2 feet of loose silty sand topsoil over 6.5 feet of layered stiff/medium dense sandy clay/clayey sand over clayey sand to about 14 feet where mudstone bedrock was encountered. The clayey sand was medium dense and the mudstone was very stiff to hard. The upper 4 feet of the mudstone was weathered. The underlying mudstone was cemented.

Boring 3 was drilled east of Boring 2 and a little more up the slope and encountered clay and sandy clay to the depths explored. The upper 5 feet of clay was firm then stiff to the base of the boring.

Groundwater

Groundwater was encountered 15 feet below grade in Boring 4. Groundwater is assumed at 20 feet in Boring 2. Groundwater was not encountered in our other borings. Groundwater levels denote groundwater conditions at the locations and times observed, and it is not warranted they are representative of groundwater conditions at other locations or times. Groundwater levels can vary due to seasonal variations and other factors not evident at the time of our investigation.

Seismicity

The following is a general discussion of seismicity in the project vicinity. A detailed discussion of seismicity is beyond the scope of our services.

The closest faults to the site are the San Andreas Fault, Zayante-Vergeles Fault, San Gregorio, Monterey Bay-Tularcitos Fault and the Sargent Fault. The San Andreas Fault is the largest and most active of the faults in the site vicinity. However, each fault is considered capable of generating moderate to severe ground shaking. It is reasonable to assume that the proposed development will be subject to at least one moderate to severe earthquake from one of the faults during the next fifty years.

Fault	San Andreas	Zayante-Vergeles	San Gregorio	Monterey Bay-Tualrcitos
Distance (mi.)	8.6	4.0	9.8	9.7
Direction	NE	N	WSW	SSW

The following ground motion parameters may be used in seismic design and were determined using the ASCE 7 Hazard Tool and ASCE 7-16.

Seismic Design Parameters	ASCE 7-16
Site Class	D
Mapped Spectral Acceleration for Short Periods	Ss = 1.784 g
Mapped Spectral Acceleration for 1-second Period	S_1 = 0.697 g
5% Damped Spectral Response Acceleration for Short Period	S_{DS} = 1.19 g
5% Damped Spectral Response Acceleration for 1-Second Period	N/A
Seismic Design Category	N/A
PGAm	0.834 g

Liquefaction

Liquefaction occurs when saturated fine-grained sands, silts and sensitive clays are subject to shaking during an earthquake and the water pressure within the pores build up leading to loss of strength. The soils below the groundwater table were dense and have a low potential for liquefaction.

Landsliding

The slope where the solar array is proposed is inclined up to about 35 percent and is generally comprised of stiff sandy clay and clayey sand over mudstone bedrock. There were no landslides observed during our investigation and none were reported to us. There appears to be a low potential for landslides to affect the proposed solar array based on the density and strength of the soils comprising the slope and the lack of existing landslides at the site and vicinity.

DISCUSSIONS & CONCLUSIONS

Based on our investigation, the proposed solar array is feasible for the site. Primary geotechnical concerns include embedding foundations into firm soil, controlling surface runoff from the solar panels and designing for strong seismic shaking.

We understand the solar panels will be supported on driven steel piles. The piles should be embedded at least 6 feet below finish grades.

Surface runoff from the solar panels should be controlled and not allowed to flow down the slopes in an uncontrolled manner. Concentrated runoff should be collected and carried down the slope is solid pipe or concrete lines swales. Swales used to collect runoff that are along the contour of the slope may be grass lined, but swales that go down the steep slopes should be concrete.

The site is located in a highly seismic region near several major fault zones. The proposed improvements will most likely experience strong seismic shaking during the design lifetime. Structures should be designed to resist seismic shaking in accordance with current building code requirements.

RECOMMENDATIONS

The following recommendations should be used as guidelines for preparing project plans and specifications:

Steel Push Piers

- Steel push piers shall have the required wall thickness to prevent buckling during installation.

- Piers should be advanced to a depth of at least 6 feet. The actual depth should be determined by your designer.

- For preliminary design purposes, an allowable end bearing capacity of 3,000 psf for dead plus live loads may be used. The bearing values may be increased by one-third to include short-term seismic and wind loads. The actual pier capacity shall be verified at each pier location by monitoring and recording drive forces.

- Piers located on slopes steeper than 25 percent should include an active lateral earth pressure of 100 pcf, equivalent fluid weight, time 2 pier diameters in the upper 2 feet of embedment depth.

- For passive lateral resistance an equivalent fluid weight (EFW) of 350 pcf times 2 pier diameters may be used for portions of the pier embedded more than 5 feet below the ground surface.

Concrete Pier Foundations

- Concrete piers should be embedded a minimum of 10 feet below the ground surface.

- Concrete piers should be designed to resist uplift from expansive soils. An uplift force of 350 psf times the surface area of the pier should be used for the upper 5 feet of pier embedment.

- A resisting force of 300 psf times the surface area of the pier may be used to resist uplift below a depth of 5 feet. The weight of the pier in combination with the dead load on the pier may be used in combination with the frictional resistance to resist uplift forces.

- The top of the pier excavations should be formed to prevent belling of the pier.

- Piers may be designed for an allowable end bearing pressure of 3,000 psf for dead plus live loads. The end bearing value may be increased by one-third to include short-term seismic and wind loads.

- Piers located on slopes steeper than 25 percent should include an active lateral earth pressure of 100 pcf, equivalent fluid weight, time 2 pier diameters in the upper 2 feet of embedment depth.

- For passive lateral resistance an equivalent fluid weight (EFW) of 350 pcf times 2 pier diameters may be used for portions of the pier embedded more than 5 feet below the ground surface.

Drainage

- Surface runoff from the solar panels should be controlled and not allowed to flow down the slopes in an uncontrolled manner.

- Concentrated runoff should be collected and carried down the slope in solid pipe or concrete lines swales. Swales used to collect runoff that are along the contour of the slope may be grass lined, but swales that go down the steep slopes should be concrete.

- The soils are clayey and concentrated water may pond. Concentrated runoff should be dispersed on gentle slopes.

General Site Grading

- Areas to receive fill should be cleared of obstructions, unsuitable material and debris. Voids created during site clearing should be backfilled with engineered fill.

- All organic materials shall be stripped from any areas to receive engineered fill. The exact depth of stripping should be determined in the field during grading. Organically contaminated soils may be stockpiled and used in landscape areas.

- The subgrade beneath areas to receive fill should be thoroughly wetted and compacted in a good workmanship manner prior to placing engineered fill.

- Temporary cut slopes should be inclined no steeper than 1:1 (horizontal to vertical). Permanent cut slopes should be inclined no steeper than 2.5:1 (horizontal to vertical).

- A bench should be excavated at the toe of proposed fill slopes and the fill should be placed upon benches. Benches should be graded with a 2 percent slope into the hillside.

- Fill slopes should be drained. Drains should be placed at the back of benches or any other areas where seepage is expected. The locations of drains should be determined by the soils engineer during grading operations.

- The soil at the base of benches should be scarified, moisture conditioned and compacted prior to the placement of engineered fill.

- Fill slopes should be inclined no steeper than 2:1 (horizontal to vertical).

- **Fills over 3 feet high may require additional geotechnical recommendations and should be brought to our attention before final design and plans are developed.**

- **The on-site soil is generally not suitable for use as engineered fill.** There is some topsoil that may be suitable for use as engineered fill if the organics are removed. Soils used for engineered fill should be granular, have a Plasticity Index less than 15, be free of organic material, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than 4 inches. We estimate the existing loose soils will have about 15 to 20 percent shrinkage when compacted.

- Engineered fill should be moisture conditioned to about 2 percent over optimum moisture content, placed in thin lifts less than 8-inches in loose thickness and compacted to at least 90 percent relative compaction. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557.

- Engineered fill should be observed and tested by our firm. At a minimum, in-place density tests should be performed as follows: one test for every foot of fill, one test for every 1,000 sq. ft. of material for relatively thin fill sections and one test whenever there is a definite suspicion of a change in the quality of moisture control or effectiveness in compaction.

Plan Review, Construction Observation, and Testing

- Dees & Associates, Inc. should be provided the opportunity for a general review of the final project plans prior to construction to evaluate if our geotechnical recommendations have been properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review.

- Dees & Associates, Inc. also requests the opportunity to observe and test grading operations and foundation excavations at the site. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those encountered in the field during construction.

- The geotechnical engineer should be notified **at least four days** prior to any grading or foundation excavating so the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the geotechnical engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for

these required services.

- After the earthwork operations have been completed and the geotechnical engineer has finished their observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the geotechnical engineer.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a soil engineer.

APPENDIX A

Site Vicinity Map

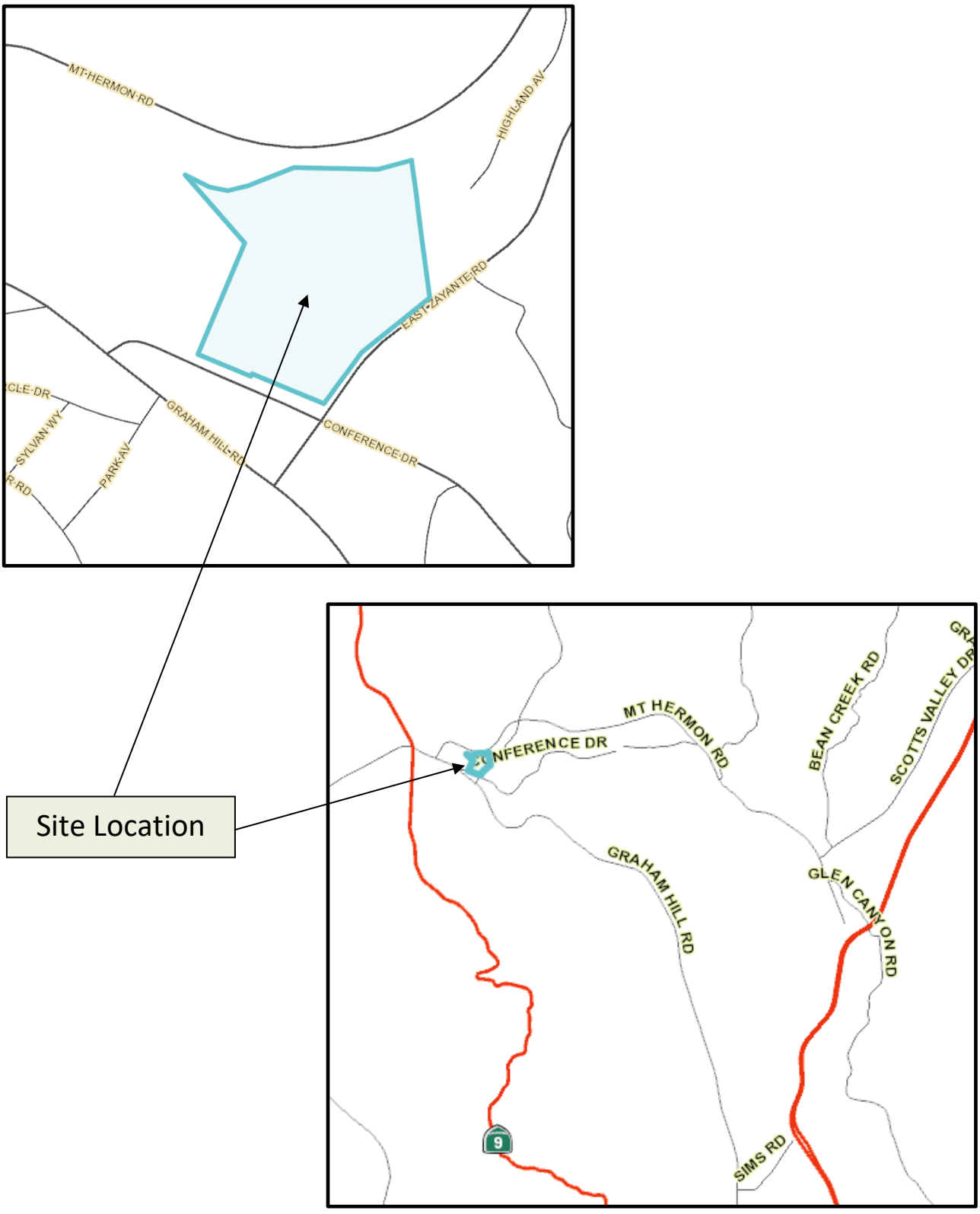
Regional Topography

Boring Site Plan

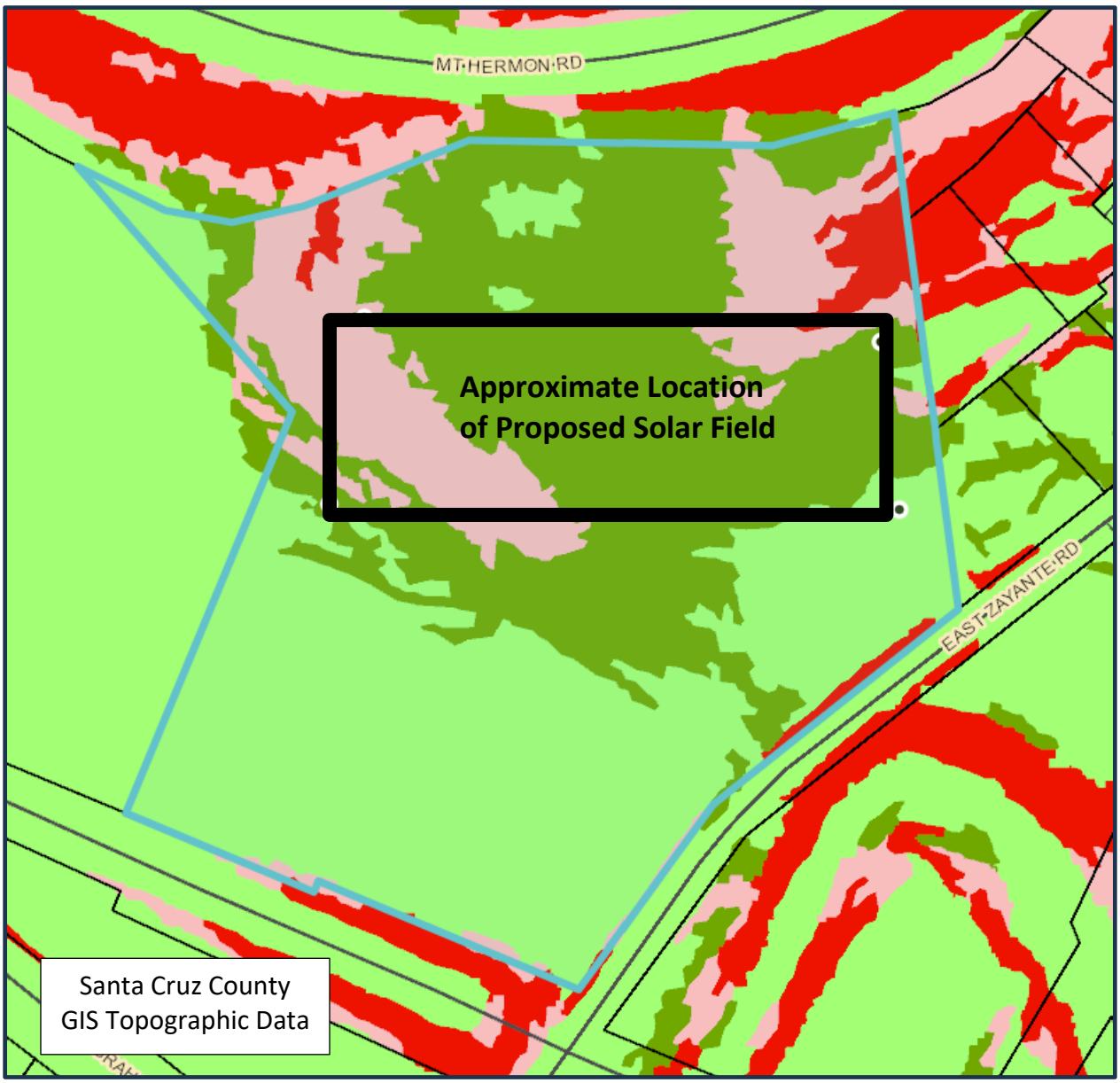
Regional Geologic Map

Unified Soil Classification System

Test Boring Logs



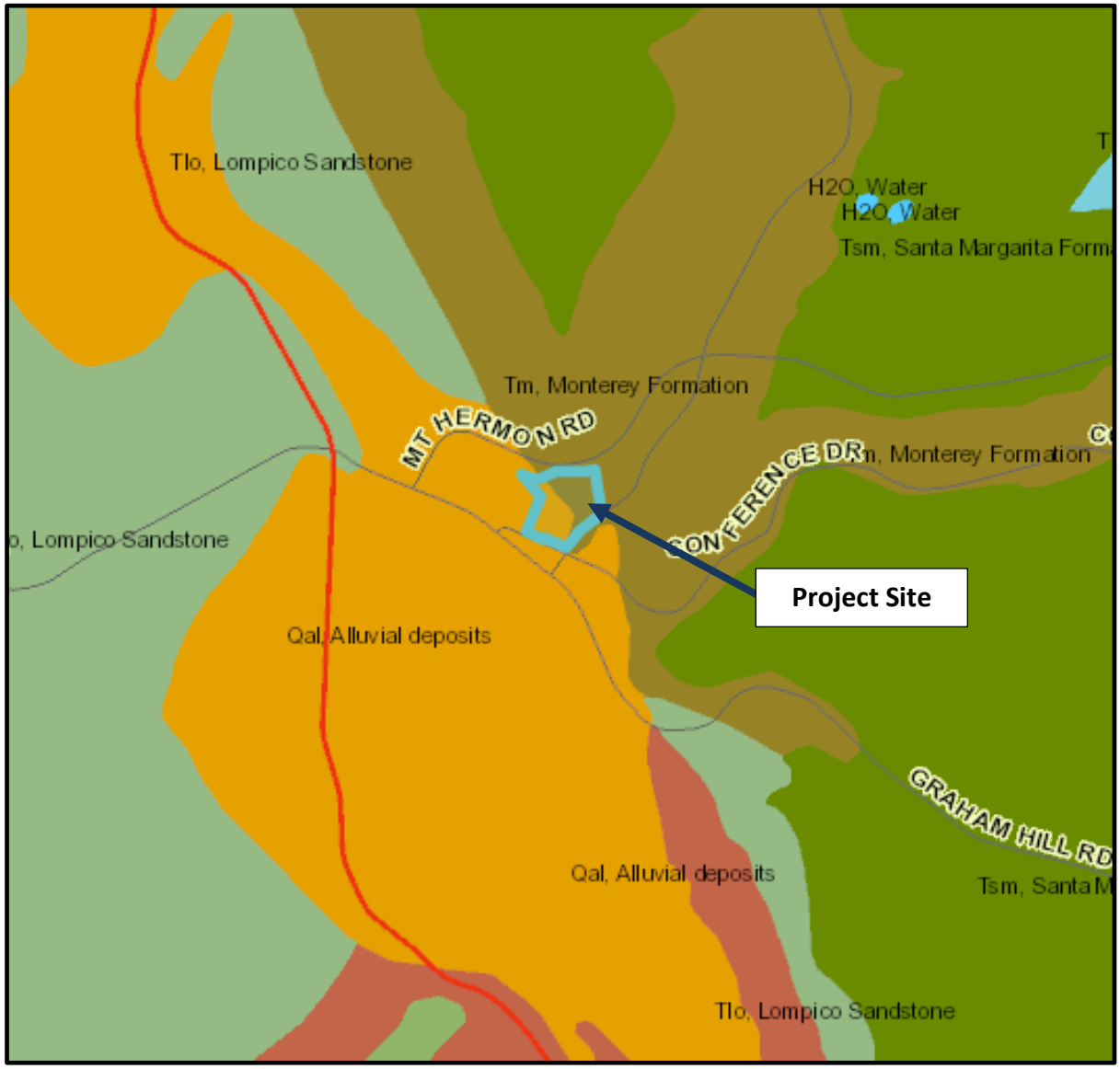
SITE VICINITY MAP
Figure 1



REGIONAL TOPOGRAPHY
Figure 2



BORING SITE PLAN
Figure 3



REGIONAL GEOLOGIC MAP
Figure 4

THE UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA	
COARSE-GRAINED SOILS* MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE)	**GRAVELS** MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS (< 5% FINES)	**GW**	Well-graded gravels, gravel-sand mixtures, little or no fines	Wide range in grain sizes and substantial amounts of all intermediate particle sizes	
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing Not meeting all gradation requirements for GW	
		GRAVELS WITH FINES (>12% FINES)	**GM**	Silty gravels, gravel-sand-silt mixtures	Non plastic fines or fines with low plasticity Atterberg limits below "A" line or PI < 4	Above "A" line with 4 < PI < 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures	Plastic fines Atterberg limits above "A" line with PI > 7	
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS (<5% FINES)	**SW**	Well-graded sands, gravelly sands, little or no fines	Wide range in grain sizes and substantial amounts of all intermediate sizes missing	
			SP	Poorly graded sands, gravelly sands, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing Not meeting all gradation requirements for SW	
		SANDS WITH FINES (>12% FINES)	**SM**	Silty sands, sand-silt mixtures	Non plastic fines or fines with low plasticity Atterberg limits below "A" line or PI < 4	Limits plotting in hatched zone with 4 < PI < 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	Plastic fines Atterberg limits above "A" line with PI > 7	
FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE)	SILTS AND CLAYS (LIQUID LIMIT < 50)		**ML**	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	SILTS AND CLAYS (LIQUID LIMIT > 50)		**MH**	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH	Inorganic clays of medium to high plasticity, organic silts		
			OH	Organic clays of medium to high plasticity, organic silts		

*Gravels and sands with 5% to 12 % fines are borderline cases requiring use of dual symbols.

RELATIVE DENSITY OF SANDS AND GRAVELS

DESCRIPTION	BLOW / FT**
VERY LOOSE	0 – 4
LOOSE	4 – 10
MEDIUM DENSE	10 – 30
DENSE	30 – 50
VERY DENSE	OVER 50

CONSISTENCY OF SILTS AND CLAYS

DESCRIPTION	BLOWS / FT**
VERY SOFT	0 – 2
SOFT	2 – 4
FIRM	4 – 8
STIFF	8 – 16
VERY STIFF	16 – 32
HARD	OVER 32

**Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. 12 vertical inches.

Figure 5

TEST BORING LOG

SCR-1898
Conference Drive

LOGGED BY: BD | **DATE DRILLED:7/31/2024** | **BORING TYPE: 6 Inch Solid Stem** | **BORING NO: 1**

DEPTH (feet)	SAMPLE NO.	SOIL DESCRIPTION	USCS SOIL TYPE	FIELD BLOW COUNT	SPT BLOW COUNT*	DRY DENSITY (PCF)	MOISTURE (%) IN-SITU	MOISTURE (%) SATURATED	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX
1	1-1-1	Dark brown Clayey SAND, damp, medium dense	SC	8								
2	L			10								
3	1-2	Very dark brown and very dark gray Sandy CLAY, damp to moist, very stiff	CL	16	13	104.2	11.4					
4	T			5								
				8								
				10	18							
5		Increase in sand between 5 and 7.5 feet										
7	1-3	Dark yellow brown mottled dark yellow brown Sandy CLAY, damp to moist, very stiff	CL	6								
8	T			8								
9				10	18		13.2					
10		Approximate contact										
11		Dark yellow brown Sandy CLAY, moist, stiff	CL									
12		Increase in sand with depth										
13				6								
14	1-4 T	Dark yellow brown Clayey SAND at base of sample, moist, medium dense	SC	6 12	18		14.9					
15		Boring terminated at 14.5 feet No Groundwater Encountered										
16												
17												
18												
19												
20												
21												
22												
23												
24												

Figure 6

* Blow count converted:
L = Field Blow Count / 2

TEST BORING LOG

SCR-1898
Conference Drive

LOGGED BY: BD | **DATE DRILLED:7/31/2024** | **BORING TYPE: 6 Inch Solid Stem** | **BORING NO: 2**

DEPTH (feet)	SAMPLE NO.	SOIL DESCRIPTION	USCS SOIL TYPE	FIELD BLOW COUNT	SPT BLOW COUNT*	DRY DENSITY (PCF)	MOISTURE (%) IN-SITU	MOISTURE (%) SATURATED	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX
1		Mottled brown Silty SAND, dry-damp, loose	SM									
2	2-1-1 L			3 5								
3	2-2 T	Dark yellow brown Sandy CLAY/Clayey SAND, damp, firm/medium dense	CL/ SC	6 3	6	83.7	6.6	12.9	85.5	34.7		
4		Gray brown mottled dark yellow brown Sandy CLAY/Clayey SAND, moist, firm/medium dense		4 4	8		17.5				43.2	
5												
6												
7												
8	2-3 T	Dark yellow brown mottled gray brown Sandy CLAY with mica, moist, very stiff	CL	8 8								
9		Gray Sandy CLAY to Clayey fine SAND, moist, medium dense	CL/ SC	10	18		28.8					
10												
11												
12												
13												
14		Approximate contact										
15												
16	2-4 T	Dark gray brown weathered MUDSTONE, damp to moist, very stiff	ML	5 7								
17				12	19							
18												
19		Cemented Mudstone, very moist, hard	ML									
20		Wet at base of boring										
21		Boring terminated at 20.0 feet Groundwater assumed at 20 feet										
22												
23												
24												

Figure 7

* Blow count converted:
L = Field Blow Count / 2

TEST BORING LOG

SCR-1898
Conference Drive

LOGGED BY: BD | **DATE DRILLED:7/31/2024** | **BORING TYPE: 6 Inch Solid Stem** | **BORING NO: 3**

DEPTH (feet)	SAMPLE NO.	SOIL DESCRIPTION	USCS SOIL TYPE	FIELD BLOW COUNT	SPT BLOW COUNT*	DRY DENSITY (PCF)	MOISTURE (%) IN-SITU	MOISTURE (%) SATURATED	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX
1												
2	3-1 T	Black CLAY, moist, firm	CL	2 2 2	4		24.8					28.3
3												
4												
5		~~Approximate Contact~~										
6	3-2 T	Mottled gray CLAY with Sand with mica, damp to moist, very stiff	CL	4 8 9	17							
7		Sandier at base of sample with weakly cemented pockets of gray brown mottled dark yellow brown										
8												
9												
10												
11	3-3 T	Mottled gray brown and dark yellow brown Sandy CLAY/SILT, moist, very stiff	CL/ ML	5 8 9	17		33.4					
12												
13												
14												
15				4								
16	3-4 T	Very dark gray mottled gray brown Sandy CLAY, very moist, firm to stiff	CL	4 5	9		21.1					
17												
18												
19												
20				4								
21	3-5 T	Very dark gray SILT/CLAY, very moist, firm to stiff	ML/ CL	4 5	9		25.0					
22		Boring terminated at 21.5 feet No Groundwater Encountered										
23												
24												

Figure 8

* Blow count converted:
L = Field Blow Count / 2

TEST BORING LOG

SCR-1898
Conference Drive

LOGGED BY: BD | **DATE DRILLED:7/31/2024** | **BORING TYPE: 6 Inch Solid Stem** | **BORING NO: 4**

DEPTH (feet)	SAMPLE NO.	SOIL DESCRIPTION	USCS SOIL TYPE	FIELD BLOW COUNT	SPT BLOW COUNT*	DRY DENSITY (PCF)	MOISTURE (%) IN-SITU	MOISTURE (%) SATURATED	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX
1												
2	4-1 T	Black Sandy CLAY, damp, stiff	CL	3 5 7	12		13.1					26.8
3												
4												
5												
6	4-2-1 L	Dark yellow brown Sandy CLAY/Clayey SAND, moist, medium dense	CL/ SC	7 10 12	11	109.2	5.3		580.7	47.8		
7												
8												
9												
10		~~Approximate Contact~~										
11	4-3 T	Brown to dark brown Clayey SAND/Sandy SILT/CLAY, moist, medium dense	SC/ CL/ ML	5 7 14	21		35.8					
12		Gray brown Sandy CLAY/Clayey SAND, damp to moist, weakly cemented, medium dense	CL/ SC									
13												
14												
15		▼ Groundwater at 15 feet	CL/	8								
16	4-4 T	Gray brown Sandy CLAY/Clayey SAND, damp to moist, weakly cemented, medium dense	SC	22 40	62							
		Black Clayey Gravelly well graded SAND, wet, very dense	SW									
17		Boring terminated at 16.5 feet Groundwater Encountered at 15 feet										
18												
19												
20												
21												
22												
23												
24												

Figure 9

* Blow count converted:
L = Field Blow Count / 2

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Appendix C. Archeological Report

Cultural Resource Evaluation, Archaeological Resource Management. March 2013.

[This document is on file with the Planning Department.]