Mitigated Negative Declaration

County of Yolo Department of Community Services, Planning Division
Bayer Woodland Solar Farm Use Permit
(ZF# 2020-0036)

1. Introduction

The County of Yolo, Department of Community Services, Planning Division has prepared this Mitigated Negative Declaration (MND) and Initial Study (IS) for the Bayer Woodland Solar Farm Use Permit (proposed Project, or Project). The proposed Project is a request for a Use Permit to construct and operate a 2-megawatt alternating current (MWac) solar photovoltaic (PV) electricity-generating facility with a Tesla Battery Energy Storage System (BESS). The Project would cover approximately 11 acres of land with 10.8 acres on a 29-acre parcel (APN 025-470-028) and the remaining 0.2 acres on existing hardscape located on the adjacent Bayer Crop Science parcel (APN 025-470-038) to the west. The Project would include PV modules, access roads, Tesla Powerpacks, and all associated equipment.

Key Project Details

Project Title:	Zone File #2020-0036 (Bayer Woodland Solar Farm)
Lead Agency:	Yolo County Department of Community Services 292 West Beamer Street Woodland, CA, 95695-2598
Contact Person:	JD Trebec Senior Planner **Phone:** (530) 666-8036 **Email:** jd.trebec@yolocounty.org
Project Sponsor:	DSD Renewables 200 Harborside Drive, Suite 200 Schenedtady, NY 12305

2. Project Location and Setting

The Project is located in unincorporated Yolo County, approximately a quarter mile west of the city of Woodland on State Route 16 (SR 16) and is adjacent to the Bayer Crop Science Facility located at 37437 SR 16. The surrounding parcels to the north of the Project support field crops, orchards, and residences; the parcels to the east support light industrial use, the parcels to the south support field crops, and the parcel to the west is Bayer's Crop Science facility and other light industrial uses.

3. Project Objectives

The Project would use solar PV modules mounted on single-axis sun-tracking support structures to generate 2 MWac of renewable electrical energy. The electricity generated by the PV field would be used to provide electricity use at the Bayer Crop Science facility and to charge the BESS units. The batteries would discharge the stored energy during peak time periods and after solar generated energy drops off in the evening.

The Project would provide benefits to Bayer Crop Science and the electrical grid. The system itself would provide a carbon offset equal to the energy usage of approximately 1,626 houses. Bayer intends to self-generate up to 70 percent of its energy needs, reducing overall electrical demand from PG&E, while actively supporting grid stabilization.

Bayer plans to enroll the Project into the Net Energy Metering (NEM) Program through PG&E. The NEM Program will create a credit for Bayer when the proposed solar Project produces more power than is instantaneously being used by its facility. Although beneficial, the NEM Program does not incentivize oversizing solar systems because Bayer will not receive payment for any excess energy produced beyond what is not used by its facility.

4. Project Components

The Project would require the following major components:

- **PV Modules** made from mono-crystalline materials covered by a glass panel, which would be dark in color, non-reflective, and highly absorptive of the sunlight that strikes their surfaces.
- **Support Structures** designed and installed to mount the PV modules onto for proper positioning to maximize the amount of sunlight that can land upon the surface. The tracking arrays would be oriented along a north-south axis to allow the modules to rotate from east to west to follow the sun's path throughout the day.
- **Battery Energy Storage Systems (BESS)** are rechargeable battery systems that store energy from the PV system during daylight or from the grid, as scheduled by the utilities. The Project plans to use four Tesla Powerpack Units and one Tesla Powerpack Inverter.
- **Inter-Array Plant Substrate** will be planted between the rows of solar panels as a flowering cover crop. The substrate will provide pollinator habitat, remediate the soil, aid in integrated pest and disease management, and improve the aesthetics of the solar facility.

5. Availability of Documents

The Initial Study was made available for a 30-day public review from March 29, 2022, through April 27, 2022, and can be viewed online at: https://ceqanet.opr.ca.gov/2022030767

6. Environmental Determination

Consistent with the California Environmental Quality Act (CEQA), this MND and IS have been prepared to identify potential effects on the environment due to implementation of the proposed Project, and to evaluate the significance of these effects. As documented in the IS, the proposed Project would have *less than significant* or *no impact* to the following issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Energy
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

However, the Initial Study concludes that the proposed Project could have *potentially significant* impacts for the five areas, noted below, unless mitigation measures are applied that can effectively reduce or avoid potential impacts.

- Air Quality
- Biological Resources
- Cultural Resources
- Tribal Cultural Resources
- Mandatory Findings of Significance

With implementation of these mitigation measures, all potentially significant impacts would be reduced to a level of less than significant. These measures are presented in the next section of this MND and are also identified in the IS. Based upon the impact analysis contained in Section 5 of the proposed Project's IS and the mandatory findings of significance contained therein (Initial Study Section 5.21), this MND documents the County's finding that with implementation of the identified mitigation measures there are no significantly adverse unavoidable impacts associated with the proposed Project.

7. Mitigation Measures

Implementation of the following mitigation measures would either avoid potentially significant impacts identified in the proposed Project's IS or reduce them to a level of less than significant.

Air Quality Resources

MM AQ-1 **Fugitive Dust Control.** A water truck(s) will be used for dust control purposes. Water will be the primary means of dust control and suppression, but dust palliatives may also be used as needed. Active construction sites will be watered at least two times daily to comply with the District rule to reduce particulate matter concentration. All vehicles traveling over unpaved, including graveled, areas shall travel at speeds at or below 15 miles per hour. Signs identifying the maximum speed limit shall be placed at all site entrances during construction.

Biological Resources

MM BIO-1 **Potential Disturbance to Active Swainson's hawk and White-tailed Kite Nests.** To avoid potential impacts to Swainson's hawk and white-tailed kite, construction/decommissioning should occur during the non-breeding season, August 15 to March 15, unless it is determined that there is no active nest present.

If construction/decommissioning is scheduled to occur during the breeding season, a qualified biologist shall conduct a preconstruction survey(s) within 15 days prior to

the beginning of the construction activity. The biologist shall determine activity at potential nesting trees within a 1,320-foot radius area around the Project site. If active nests are found, a 1,320-foot non-disturbance buffer should be established around the nest to minimize disturbance.

If project related activities within the temporary nest disturbance buffer (1,320-feet) are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior.

The qualified biologist shall be experienced in identification and behavior of Swainson's hawk and white-tailed kite, as well as typical courting and nesting behavior and suitable nest sites for both species.

A preconstruction report and monitoring reports, if applicable, will be submitted to CDFW within 30 days of the action.

Cultural Resources

MM CUL-1 **Worker Environmental Awareness Program.** Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist meeting federal criteria under 36 CFR 61 and a member of the Yocha Dehe Wintun Nation - regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Awareness Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

MM CUL-2 **Inadvertent Discovery of Historical Resources, Unique Archaeological Resources or Tribal Cultural Resources.** If previously unidentified cultural resources are uncovered during construction activities, construction work within 50 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior-qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the County, the Yocha Dehe Wintun Nation, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the find(s) is found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA (PRC §21083.2), or is determined to be tribal cultural resource as defined in PRC §21074.

MM CUL-3 **Treatment of Human Remains.** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, because it could be a crime scene. The Coroner would determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined that the remains are archaeological/historic-era, the Coroner would make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC would immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours from the time given to access the site to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

Initial Study/

Mitigated Negative Declaration

Bayer Woodland Solar Farm Use Permit

Zone File # 2020-0036

Lead Agency

Yolo County Department of Community Services
Planning Division
292 West Beamer Street
Woodland, CA, 95695-2598

Technical assistance provided by

Aspen environmental group

March 2022

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1. Introduction

Bayer U.S., Crop Science is seeking to construct and operate a 2-megawatt alternating current (MWac) solar photovoltaic (PV) electricity-generating facility during peak periods of production, known as the Bayer Woodland Solar Farm Project (Project). The Project would cover approximately 11 acres of land with 10.8 acres on a 39-acre parcel (APN 025-470-028) and the remaining 0.2 acres on existing hardscape located on the adjacent Bayer Crop Science parcel (APN 025-470-038) to the west. Both parcels are located in unincorporated Yolo County, approximately a quarter of a mile west of the City of Woodland on State Route 16 and adjacent to the Bayer Crop Science Research Facility located at 37437 State Route 16. The Project would include a Tesla Battery Energy Storage System (BESS). The BESS would discharge the stored energy during the evening peak power demand when the solar generation drops off. The facility would be designed to operate year-round and would generate electricity during daylight hours. The electricity generated by the PV field would provide electricity for the adjacent Bayer Crop Science facility and for charging the BESS. Any excess electricity not used to power the Bayer facility or BESS, would be credited to Bayer through a Net Energy Metering (NEM) Program with Pacific Gas & Electric (PG&E).

The 11-acre Project footprint would include PV modules, access roads, Tesla Powerpacks, and all associated equipment. To minimize inter-row shading of the sun, parallel arrays would be spaced out 12 to 14 feet, allowing the area between arrays to be used as a stable grassland/pollinator plant substrate.

2. Regulatory Framework

CEQA

The Yolo County (County) Department of Community Services Planning Division has identified that the Bayer Woodland Solar Farm Project meets the California Environmental Quality Act (CEQA) Guidelines Section 15378 definition of a Project. CEQA Guidelines Section 15378 defines a Project as the following:

> *"Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.*

In accordance with CEQA (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to determine potentially significant impacts upon the environment resulting from the construction, operation, and maintenance of the Bayer Woodland Solar Farm Project (hereinafter referred to as the "Project" or "proposed Project"). In accordance with Section 15063 of the State *CEQA Guidelines*, this Initial Study is a preliminary analysis prepared by the Yolo County Department of Community Services Planning Division as Lead Agency to inform the Lead Agency decision makers, other affected agencies, and the public, of potential environmental impacts associated with the implementation of the proposed Project.

3. Environmental Checklist Form

1. Project Title: Bayer Woodland Solar Farm

2. Lead Agency Name: Yolo County Department of Community Services

Address: 292 West Beamer Street, Woodland, CA 95695

3. Contact Person and Phone Number: JD Trebec, Senior Planner
jd.trebec@yolocounty.org
(530)666-8036

4. Project Location: The Project is located in unincorporated Yolo County, approximately a quarter mile west of the city of Woodland on State Route 16 (SR 16) and is adjacent to the Bayer Crop Science Facility located at 37437 SR 16.

Latitude/Longitude: Latitude/Longitude: 38°40'37.28" N, 121°48'34.37" W

Site Access: Site access would be from SR 16. Heading west on SR 16 from I-5. It is the second parcel past the city of Woodland. Turn south into the facility driveway.

5. Project Sponsor: DSD Renewables

Name and Address: Christian Inzunza
DSD Renewables
200 Harborside Drive, Suite 200
Schenectady, NY 12305
(760) 902-2314
Christian.Inzunza@dsdrenewables.com

6. General Plan/Zoning Designation: Agriculture (AG)/Agricultural Intensive (A-N)

8. Project Description Summary: The proposal is to construct and operate a 10.8-acre solar energy system on the 39-acre parcel. The panels would generate nearly two megawatts alternating current (MWac) of renewable electrical energy for the adjacent facility with any excess energy to be used offsite and credited to Bayer through a Net Energy Metering Program with PG&E. An associated Battery Energy Storge System and associated equipment would be located at the neighboring Bayer Crop Science Facility (0.2 acres).

9. Surrounding Land Uses and Setting:

Relation to Project	Land Use	Zoning	General Plan Designation
Project Site	Agricultural (orchard)	Agricultural Intensive (A-N)	Agriculture (AG)
North	Residence, Agricultural (row crop)	Agricultural Intensive (A-N)	Agriculture (AG)
South	Residence, Agricultural (almonds)	Agricultural Intensive (A-N)	Agriculture (AG)
East	Agricultural (row crop)	Agricultural Intensive (A-N)	Agriculture (AG)
West	Agricultural (almonds)	Agricultural Intensive (A-N)	Agriculture (AG)

10. Other Public Agencies Whose Approval is Required: Project shall comply with all permitting requirements required from the Yolo County Building Division and Division of Environmental Health.

11. Have California Native American tribes traditionally affiliated with the Project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation?

The Yocha Dehe Wintun Nation responded to an early invitation for consultation at the preapplication phase of the project with a letter dated November 16, 2020 stating a request for consultation. Subsequently, a formal consultation invitation was sent on December 10, 2021 to the Yocha Dehe, Wilton Rancheria, Cortina Rancheria, Ione Band of Miwok Indians, and Torres Martinez Desert Cahuilla Indians; the Yocha Dehe responded with a letter requesting a site visit which occurred on January 28, 2022. No further concerns were raised.

3.1 Environmental Factors Potentially Affected

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

☐ Aesthetics	☐ Agriculture & Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

3.2 Environmental Determination

On the basis of this initial evaluation:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

☐ I find that the Proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Planner's Signature	Date	JD Trebec Planner
JD Trebec	3-29-2022	

4. Project Description

4.1 Introduction

Bayer U.S., Crop Science (Bayer Crop Science) is seeking to construct and operate a solar array facility, known as the Bayer Woodland Solar Farm Project (Project), with the capacity to generate up to 2 mega-watts (MWac) of renewable electrical energy during peak periods of production. The Project would also include a Tesla Battery Energy Storage System (BESS). The Project would be designed to operate year-round and would generate electricity during daylight hours. The electricity generated by the photovoltaic (PV) field would provide electricity for the adjacent Bayer Crop Science facility and for charging the batteries. Any excess electricity not used to power the Bayer facility or BESS, would be credited to Bayer through a Net Energy Metering (NEM) Program with Pacific Gas & Electric (PG&E). The batteries would generally discharge the stored energy during the evening peak power demand after the solar generation drops off.

The majority of the 11-acre Project would be constructed on a 10.8-acre portion of a 39-acre parcel (APN 025-470-028), with a small portion of the Project (0.2 acres) on the adjacent parcel (APN 025-470-038) to the west of the solar field. The parcels are located 0.25 miles west of Woodland, California on State Route 16 (SR 16) (Figure 4-1, Project Vicinity). The Project would include PV modules, access roads, Tesla Powerpacks and all associated equipment. To minimize inter-row shading of the sun, parallel arrays would be spaced 12 to 14 feet apart, allowing the area between arrays to be used as a stable grassland/pollinator plant substrate. Flowering crops would be planted in between the PV arrays for pollinator habitat creation and soil remediation purposes. The proposed site plan for the facility is shown in Figure 4-2, and the surrounding parcels and land uses are shown in Figure 4-3.

4.2 Project Objectives

The Project would use solar PV modules mounted on single-axis sun-tracking support structures to generate 2 MWac of renewable electrical energy. The electricity generated by the PV field would be used to provide electricity use at the Bayer Crop Science facility and to charge the BESS units. The batteries would discharge the stored energy during peak time periods and after solar generated energy drops off in the evening.

The Project would provide benefits to Bayer Crop Science and the electrical grid. The system itself would provide a carbon offset equal to the energy usage of approximately 1,626 houses. Bayer intends to self-generate up to 70 percent of its energy needs, reducing overall electrical demand from PG&E, while actively supporting grid stabilization.

Bayer plans to enroll the Project into the NEM Program through PG&E. The NEM Program will create a credit for Bayer when the proposed solar Project produces more power than is instantaneously being used by its facility. Although beneficial, the NEM Program does not incentivize oversizing solar systems because Bayer will not receive payment for any excess energy produced beyond what is not used by its facility.

Figure 4-1. Project Vicinity

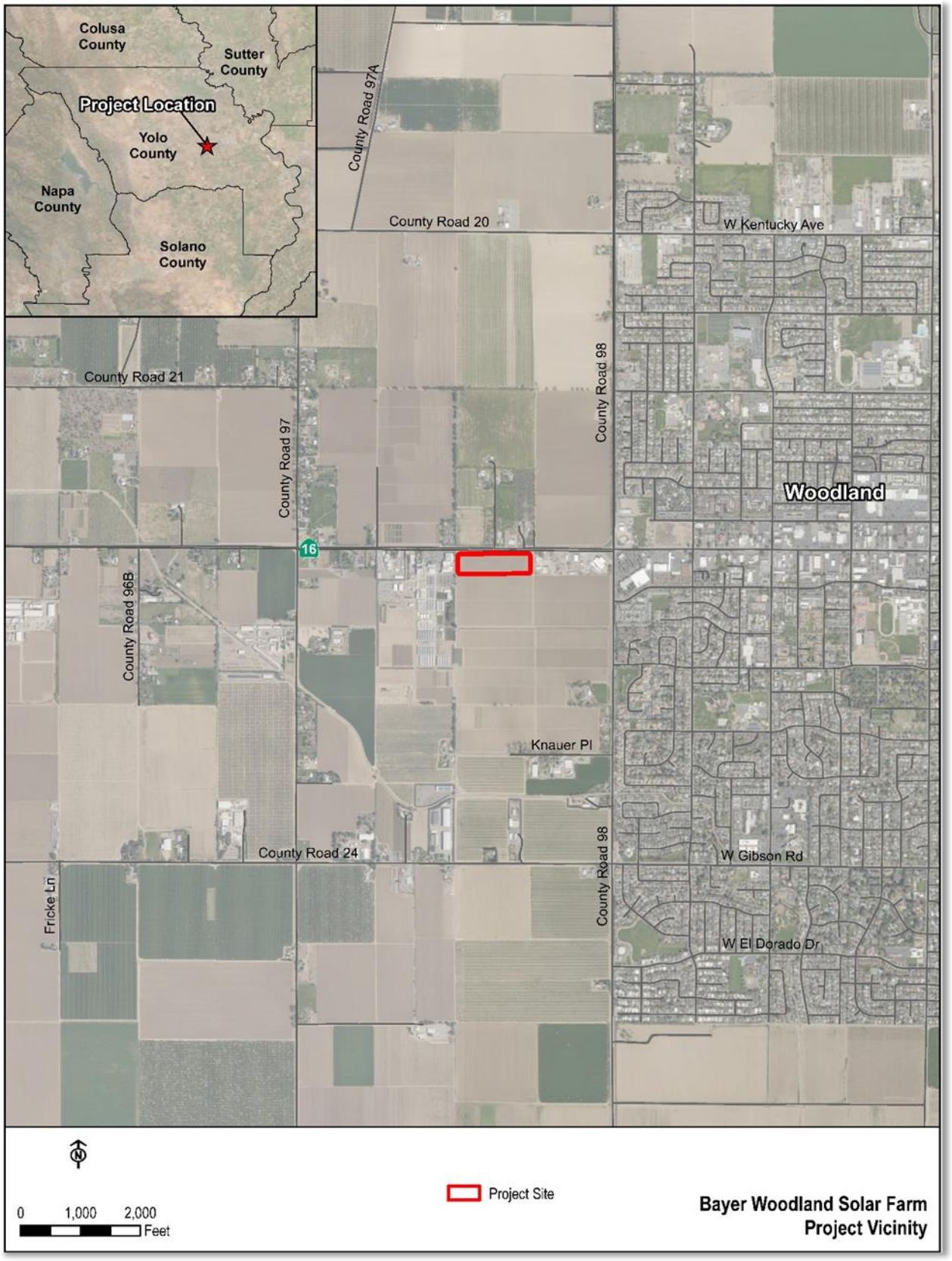


Figure 4-2. Project Site Plan

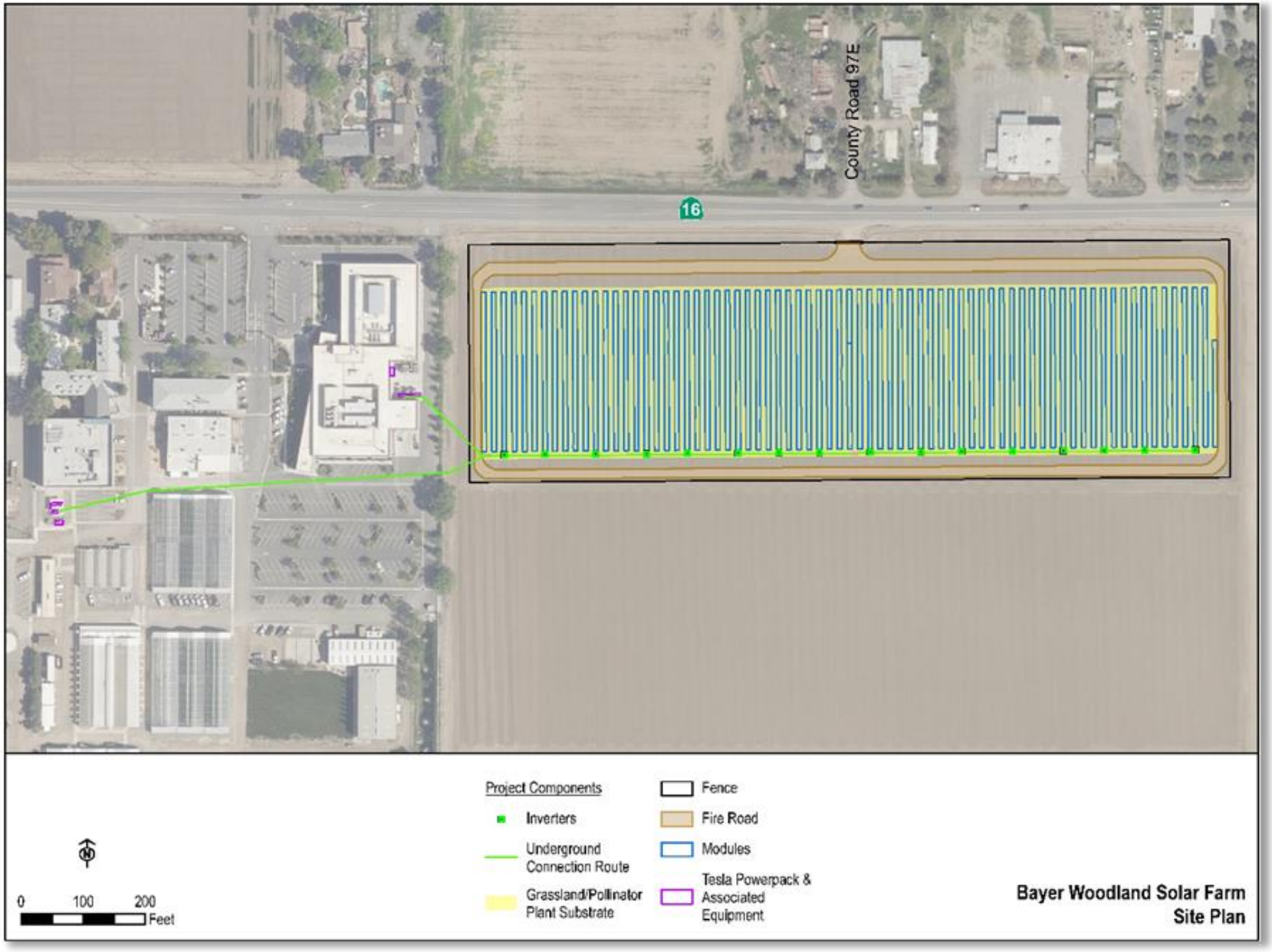
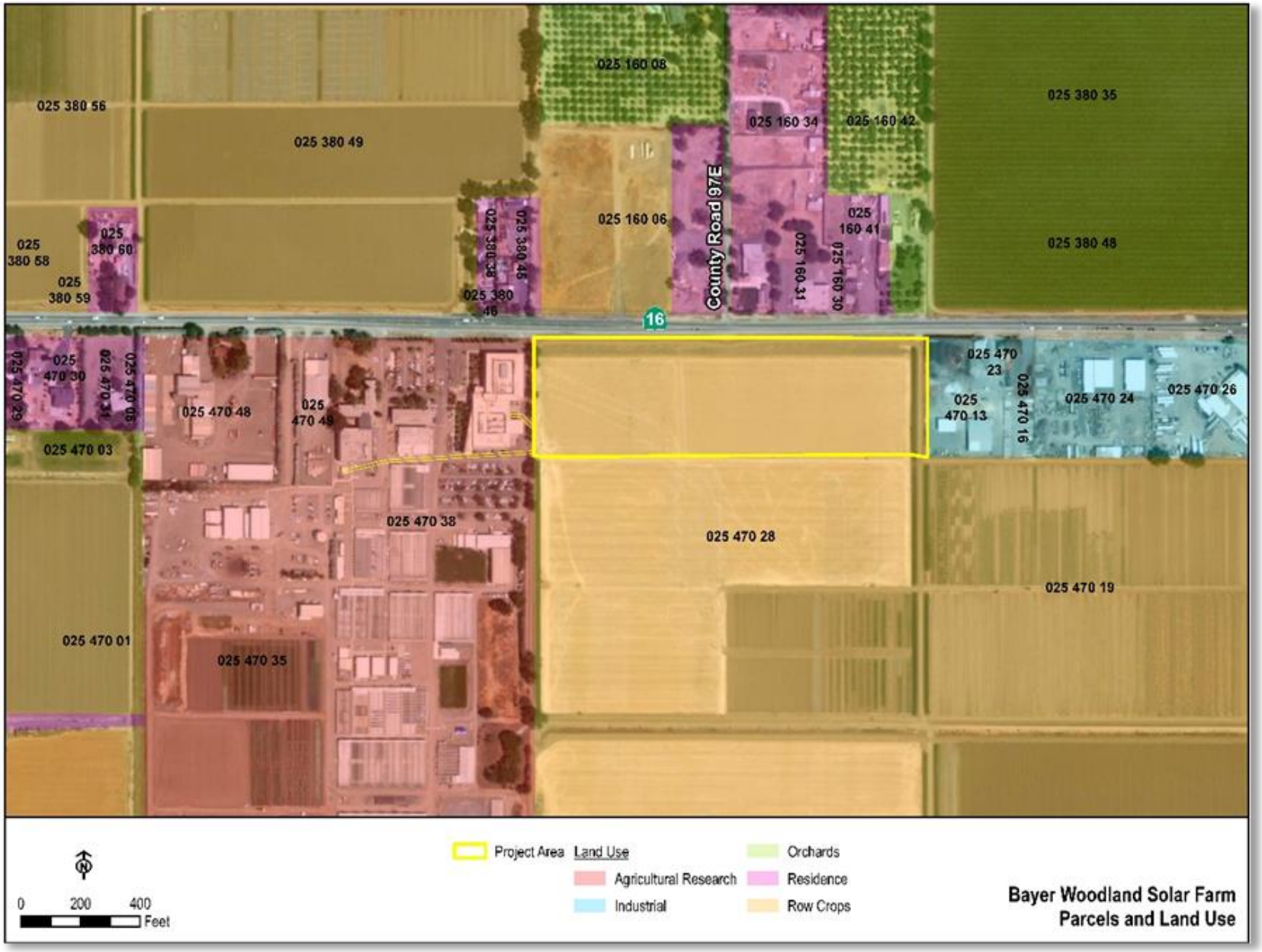


Figure 4-3. Parcels and Land Use



4.3 Project Components

The Project would require the following major components.

PV Modules

The PV cells would be made from mono-crystalline materials covered by a glass panel, which would be dark in color, non-reflective, and highly absorptive of the sunlight that strikes their surfaces. Each PV module is about 6.6 feet long, 3.3 feet wide, and 3 inches thick with a weight of about 50 pounds. The PV modules would be electrically connected together in series and parallel configurations to form "strings." Multiple "strings" would be connected to one another via underground wiring and connected to inverters and powerpacks located on the Project site. The PV modules deployed for use in the Project would comply with all industry quality standards and be stringently tested and robustly constructed to guarantee a useful life of at least 20 years in all weather conditions.

Support Structures

The PV modules would be mounted on steel support structures designed and installed to properly position the PV modules to maximize the amount of sunlight that can land upon their surfaces. The single-axis sun tracking arrays (a row of PV modules) would be oriented along a north-south axis to allow the PV modules to rotate from east to west to follow the sun's path throughout the day. The parallel array rows would be separated and spaced every 12 to 14 feet to minimize inter-row shading of the sun and allow for vegetation management.

These support structures are typically mounted on foundations of steel beams or tubes directly embedded into the ground up to a depth of up to 8 feet depending upon loading and soil conditions. Generally, these structural elements are driven into the earth with vibratory or hydraulic press-in methods. This type of driven pier foundation offers multiple benefits, including quick installation and minimal site disturbance, and is a "concrete-free" foundation solution that allows for easy site restoration at the end of the Project's 20-year life cycle. The PV modules, at their highest point of the solar tracking during the day, would be no more than 9 feet above the ground surface; with their base about 3 feet above the ground.

Battery Energy Storage System

Battery energy storage systems (BESS) are rechargeable battery systems that store energy from the PV system during daylight or from the grid as scheduled by the utilities. Intelligent battery software uses algorithms to coordinate solar production, usage history, utility rate structures, and weather patterns to optimize when the stored energy is used. Energy is discharged from the BESS during times of high usage, reducing or eliminating costly peak demand charges.

Energy storage allows solar energy production to mimic the consistency of fossil fuel energy sources. For utility-scale customers, battery energy storage can provide a host of valuable applications, including reserve capacity, frequency regulation, and voltage control to the grid.

The Project plans to use four Tesla Powerpack Units and one Tesla Powerpack Inverter. Every Powerpack contains 16 individual battery pods, each with an isolated DC to DC converter, a thermal control system, and hundreds of sensors that monitor and report on cell-level performance. Additionally, one Tesla Powerpack Inverter will be connected to the Tesla Powerpack Units that will convert AC grid power to DC for Powerpack storage, then convert this DC power back to AC for grid interconnection. Control components allow batteries to be charged automatically when energy is at the lowest rate and dis-

charge automatically when it is at a higher rate, or they can be configured to simply store energy for use during a power outage. The other key components include built-in internal cooling and heating systems, weatherproof construction, and scalable architecture. These components make the Tesla BESS safe, scalable, and cost-effective.

The Tesla BESS would be housed in small, sealed containers on a single concrete pad approximately 25 feet by 15 feet. The battery containers would include hazardous waste containment in the case of battery leak. The batteries would be connected to the system via underground electrical wires and are entirely silent during their operation.

Inter-Array Plant Substrate

The parcel currently has a Fusarium contaminant load that impacts the growing of tomatoes and peppers, two crops of major research and varietal development focus at the site. Bayer has opted to "rest" the soil so that it can recover naturally from the Fusarium contamination. To aid this process, flowering cover crops will be planted between the rows of solar panels for soil remediation. This substrate will provide pollinator habitat, aid in integrated pest and disease management, and improve the aesthetics of the solar facility.

4.4 Project Schedule

Construction of the Project is anticipated to begin no later than the third quarter of 2022 and last approximately 3 months. Construction would begin 6 to 8 months following completion of the CEQA review and upon receipt of all applicable permits.

4.5 Project Construction

Schedule and Workforce

A PV solar energy-based electricity generating facility is highly modular and as such, is very straight-forward to construct. The construction activities for the Project generally fall into three main phases: (1) site preparation; (2) system installation; and (3) facility commissioning. The entire process is estimated to take up to 3 months, with the following breakdown of tasks:

- Mobilization/site preparation (1 week)
- Clear and grub/grading/roads (1 week)
- Underground electrical installation (1 week)
- PV racks and solar panel installation (7 weeks)
- Battery energy storage system construction (2 weeks)

The on-site construction workforce for the Project is expected to peak (overlapping construction activities) at 32 individuals. It is anticipated that the construction workforce would commute to the site each day from local communities. Additionally, construction activity trips would include approximately five to seven light trucks, one post driver, one backhoe, and one water truck arriving and departing the site each day. Approximately one heavy truck delivery would occur per week to deliver materials. All noise-producing, construction-related activities would be limited to the hours of 8:00 a.m. to 6:00 p.m., Monday through Saturday.

Site Preparation

Prior to initial construction mobilization, preconstruction surveys would be performed, and any required hazardous materials control and erosion control measures (including obtaining a National Pollutant Discharge Elimination System [NPDES] permit) would be implemented in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP). A stabilized construction entrance and exit would be installed at the driveway to reduce tracking of sediment onto the adjacent public roadway.

Given the relatively flat topology of the site, and adaptability of the support structures, only a minimal amount of surface smoothing and grading by wheeled or tracked scrapers and graders would be performed. The rough locations of all foundations, trenches, roads, fences, and equipment would be surveyed and marked. The internal access road would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access per the grading plan drafted by a licensed California Professional Engineer.

System Installation

Trenching would be performed for placement of underground electrical connection lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment, and water trucks. Trenching would be a maximum of 36 inches deep. In addition, concrete foundations would be required for the grid interconnection and Tesla BESS pads. The depth of these foundations would be approximately 12 inches. Concrete required for any foundations or equipment pads would be purchased from an off-site supplier and trucked to the Project site for placement. The steel beam/tube foundations (posts) for the PV support structures would be driven into the soil up to 8 feet deep using a pile driver. Once the posts have been installed, the horizontal cross-members and other hardware/equipment associated with the single-axle tracking structural system would be placed and secured. The electronic and electrical equipment would be mounted or installed in-place. The PV modules would be mechanically attached to the support structure in the correct position for maximum exposure to sunlight and electrically interconnected to the inverters.

Facility Commissioning

Facility commissioning includes final inspections, testing, start-up, and certification. Once all the equipment and components have been installed and inspected, all mechanical and electrical connections would be inspected. The facility would be brought on-line in stages starting at low power levels and methodically increasing the capacity until the facility is operating at full power. Testing would occur at every stage to correlate electricity output to weather conditions.

4.6 Operations and Maintenance

The facility would be operated by DSD Renewables. A part-time operations and maintenance staff of two to four people would be responsible for performing all routine and emergency operational and maintenance activities. Such activities would be done in quarterly intervals and would include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules, if needed, to increase the performance of the panels. The Project would require about 120,000 gallons (0.37 acre-feet [AF]) of water for each routine panel washing operation, which would occur up to two times per year. This wash water would be obtained from pre-existing wells on the Bayer site. In addition, during the first few years, approximately 550,000 gallons (1.7 AF) of water would be required annually to establish the cover crops around the solar arrays.

Replacement parts and components would be warehoused off-site and deployed as needed. Most scheduled maintenance would occur during daytime hours, but work may be performed at night for safety reasons.

Site Security

The facility would be accessed directly from SR 16 with on-site roadways around the solar field to assure the unrestricted access by the fire department, county employees, and the operation and maintenance crew. A 6-foot-tall chain-link security fence would be installed around the perimeter of the site to restrict public access during construction and operations. The Project applicant would comply with the National Electrical Safety Code (NESC) requirements for protective arrangements in electric supply stations when fencing the facility.

No permanent lighting would be installed in, or around, the PV system.

4.7 Facility Closure/Decommissioning

Decommissioning

Upon decommissioning, at the end of the project life, the site could be restored to agricultural uses or converted to other uses in accordance with applicable land use regulations in effect at that time.

The decommissioning of the Project would involve the removal of above-grade facilities (such as buildings, PV panels, and racking), buried electrical conduit, and all concrete foundations. A collection and recycling program would be executed to promote recycling of Project components and minimize disposal in landfills.

The Tesla BESS would be decommissioned along with the rest of the solar facility. Batteries may be disposed of as hazardous waste, or recycled, depending on available technology. The recycling of the batteries is expected to become increasingly commonplace with the increased use of batteries in consumer goods and electric vehicles. Some batteries may have the capacity at the end of the operating life of the Project to be reused at other projects or for other purposes.

Decommissioning activities would involve exposure and disturbance of soils; therefore, measures for erosion and sediment control would be implemented in accordance with a separate SWPPP that would be required for decommissioning.

Decommissioning Workforce, Equipment, and Trip Generation

Approximately 20 workers may be on the site at peak for decommissioning activities. Decommissioning would involve the use of heavy equipment similar to that used for construction.

Appropriate hazardous materials control and erosion control measures (including obtaining an NPDES permit and implementing a SWPPP) would be used throughout the decommissioning process. It is anticipated that such controls would be substantially similar to those implemented during construction, although the intensity of activities would be much lower. Trips generated by decommissioning include worker vehicle trips, water truck trips, and construction truck trips. Decommissioning would generate approximately 20 average daily worker trips (at peak) and 5 average daily construction truck trips.

Site Reclamation

The driveway and other areas compacted during original construction, or by equipment used for decommissioning, would be tilled in a manner adequate to restore the sub-grade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, topsoil would be placed to a depth and density consistent with adjacent properties. Compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost to restore the site to pre-Project conditions to the extent feasible.

4.8 Zoning

The site is zoned Agricultural Intensive (A-N).

4.9 Surrounding Land Uses and Setting

The Project is located 0.25 miles west of Woodland, California. The Project site is currently not in agricultural use due to a fusarium contamination. The surrounding parcels to the north of the Project support field crops, orchards, and residences; the parcels to the east support light industrial use, the parcels to the south support field crops, and the parcel to the west is Bayer's Crop Science facility and other light industrial uses.

5. Environmental Setting and Environmental Impacts

5.1 Aesthetics

AESTHETICS **Except as provided in Public Resources Code Section 21099, would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Significance criteria established by CEQA Guidelines, Appendix G.

5.1.1 Setting

Aesthetics, as addressed in the California Environmental Quality Act (CEQA), refers to visual considerations in the physical environment. Aesthetics analysis, or visual resource analysis, is a systematic process to logically assess visible change in the physical environment and the anticipated viewer response to that change. The Aesthetics section of this IS/MND describes the existing landscape character of the project area, existing views of the project area from various on-the-ground vantage points, the visual characteristics of the Proposed Project, and the landscape changes that would be associated with the construction and operation of the Proposed Project, as seen from various vantage points.

When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. However, generalizations can be made about viewer's sensitivity to scenic quality and visual changes. Recreationists, hikers, equestrians, tourists, and people driving for pleasure are expected to have high concern for scenery, visual quality, and landscape character. People who are commuting daily through the same landscape generally have a moderate concern for scenery, while people working at agricultural or industrial sites generally have a lower concern for scenic quality or changes to existing landscape character. The visual sensitivity of a landscape is affected by the viewing distances at which it is seen, such as close-up or far away. The visual sensitivity of a landscape also is affected by the travel speed at which a person is viewing the landscape (high speeds on a highway, low speeds on a hiking trail, or stationary at a residence).

Distance zones are delineated as immediate foreground, foreground, middleground, and background. When a viewer is closer in proximity to a viewed object in the landscape, more detail can be seen and there is greater potential influence of that object on visual quality because of its form or scale (relative size of the object in relation to the viewer). When the same landscape feature is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the

horizon and skyline are dominant. In the middleground, some detail is evident (like the foreground) and landscape elements are seen in context with landforms and vegetation patterns (like the background). For this analysis, four viewing distances were used:

- Immediate Foreground (from the viewer to approximately 300 feet away)
- Foreground (approximately 300 feet to 0.5 miles away)
- Middleground (approximately between 0.5 and 4 miles away)
- Background (approximately 4 miles to the horizon)

Visual Inventory Methodology

Visual resources of the project area were investigated based on the following criteria: (1) existing visual quality and scenic attributes of the landscape; (2) location of sensitive receptors (receptors with close proximity and long duration of view) in the landscape; (3) assumptions about receptors' concern for scenery and sensitivity to changes in the landscape; (4) the magnitude of visual changes in the landscape that would be brought about by implementation, construction, and operation of the Proposed Project; and, (5) compliance with State, County and local policies for visual resources.

The visual setting is described in terms of the existing *landscape character and visual quality* of the view-shed. Existing landscape character is an overall visual and cultural impression of landscape attributes — the physical appearance and cultural context of a landscape that gives it an identity and sense of place. Existing landscape character is determined by landforms, vegetation patterns, water-bodies, and cultural features. Visual quality is a judgment of a landscape's attractiveness, as determined by attributes broadly recognized as being valued and preferred by most viewers. Visual quality is expressed as a range of valued landscape attributes, often described in terms such as form, line, color, and texture. Combinations of these factors lead to evaluations of landscape character and visual quality, such as:

- High – a landscape of exceptional quality and beauty, valued for its scenic attributes.
- Moderate – a landscape that is common or average within the landscape character type.
- Low – a landscape that is lacking in scenic features.

The existing landscape setting and its viewers are characterized in terms of their overall visual sensitivity. Visual sensitivity consists of three components: viewer exposure, viewer concern, and visual quality. Viewer exposure affects a landscape's overall visual sensitivity. Landscapes that have very low viewer exposure (based on landscape visibility, the viewing distance, the number of people who view the land-scape, or the duration of time that the landscape can be viewed) would tend to be less sensitive to overall visual change in the context of human experience of visual impacts.

Evaluations of existing landscape character and visual quality, combined with ratings of overall visual sen-sitivity, establishes the visual inventory methodology. On-the-ground viewpoints were analyzed for their potential to display worst-case visual effects of the Proposed Project to the scenic and aesthetic landscape.

Existing Landscape Setting and Viewer Characteristics

This section discusses the existing visual character of the region, existing visual quality in the project area; viewer concern, and viewer exposure to the Proposed Project, leading to a rating of overall visual sensi-tivity. Also discussed are the existing sources of light and glare within the Project area.

Regional Context. The Project site consists of one 39-acre parcel located within the A-N (Agricultural-intensive) Zone. The area that surrounds the site is also zoned A-N, with the exception of the northern

third of the eastern boundary that is shared by a parcel zoned Heavy Industrial (I-H). The landscape within the subarea is predominately flat, with field crops, orchards, and residences to the north, industrial use to the east, field crops to the south, and Bayer's Crop Science Facility and other light industrial uses to the west. Additionally, the parcel is located 0.25 miles west of Woodland. The City of Woodland, which occupies approximately 9,800 acres, has a population of just over 60,500 persons (Census, 2019). The subarea along State Route 16 can be described as a mix of agricultural, rural, and industrial uses adjacent to the urban development within the City of Woodland.

Project Viewshed and Key Observation Points. The Project site was previously used for agricultural row crops, but it is not currently in agricultural use due to a fusarium contamination. The existing landscape of the Project site and surrounding area is considered to have moderate-to-low visual quality and consists of a blend of unused agricultural land, residences, and industrial facilities. Within the foreground viewshed areas of the Project site, the topography is flat (Photo 1). Public viewpoints would be along SR 16. Because of Yolo County's rural character, night lighting and glare mostly occur within and around the developed communities and cities. Individual areas supporting agriculture and other industries also produce limited amounts of nocturnal lighting and glare on an intermittent basis when evening activities require additional lighting. However, the main source of light is from the nearby city of Woodland.

Photo 1 - Southwest corner of the Project site – looking northeast
(Source: Aspen Environmental Group, 2021)

Regulatory Background

Local

Yolo County does not currently have any regulations applicable to visual and scenic resources. Design review is performed on a project-by-project basis by the County during the application review for a building permit.

The following policies are presented in the Yolo County 2030 General Plan, Land Use and Community Character Element (2009):

Policy CC-1.1. *Encourage private landowners of both residential and commercial properties to maintain their property in a way that contributes to the attractive appearance of Yolo County, while recognizing that many of the land uses in the County, including agriculture and light industry, require a variety of on-site structures, equipment, machinery and vehicles in order to operate effectively.*

Policy CC-1.2. *Preserve and enhance the rural landscape as an important scenic feature of the County.*

Policy CC-1.3. *Protect the rural night sky as an important scenic feature to the greatest feasible extent where lighting is needed.*

Policy CC-1.8. *Screen visually obtrusive activities and facilities such as infrastructure and utility facilities, storage yards, outdoor parking and display areas, along highways, freeways, roads, and trails.*

Policy CC-1.13. *The following routes are designated as local scenic roadways, as shown in [General Plan] Figure LU-3 (Scenic Highways):*

- *State Route 16 (Colusa County line to Capay)*
- *State Route 128 (Winters to Napa County line)*
- *County Roads 116 and 116B (Knights Landing to eastern terminus of County Road 16)*
- *County Roads 16 and 117 and Old River Road (County Road 107 to West Sacramento)*
- *South River Road (West Sacramento City Limits to Sacramento County line)*

5.1.2 Environmental Impacts and Mitigation Measures

Visual Impact Assessment Methodology

This visual analysis used the Visual Sensitivity/Visual Change (VS/VC) methodology to assess the visual effects of the Proposed Project on existing landscapes. The VS/VC methodology includes a characterization of the visual sensitivity of existing landscapes, the characteristics of existing visual changes occurring and apparent in the landscape, and the characteristics of the Proposed Project.

Following professionally accepted practice in visual analysis, visual sensitivity consists of three components: visual quality, viewer concern, and viewer exposure. The description of visual quality notes the existing built structures and natural landscape features that contribute to overall visual quality. Viewer concern can be described as the personal expectations for the landscape that are held by the viewing public. Viewer concern is often reflected in public policy documents that identify landscapes of special concern or roadways with special scenic status, e.g., scenic highways. Viewer exposure also affects a landscape's overall visual sensitivity. Landscapes that have very low viewer exposure, based on landscape visibility, viewing distance, number of people who view the landscape, or duration of time that the landscape can be viewed, will tend to be less sensitive to overall visual change in the context of human experience of visual impacts. Landscapes with higher viewer exposure are more sensitive to overall visual changes. Overall visual sensitivity is rated on a scale of Low to Moderate to High.

Project-induced visual change could result from aboveground facilities, vegetation removal, landform modification, component size or scale relative to existing landscape characteristics, and the placement of project components relative to developed features. The experience of visual change can also be affected by the degree of available screening by vegetation, landforms, and/or structures; distance from the observers; atmospheric conditions; and angle of view. Visual change describes the degree of actual visible change expected as a result of the project. The fundamental elements of visual change include visual contrast, visual dominance, and scenic view obstruction. Visual contrast refers to visual discrepancies of form, line, color, or texture of the project against the existing landscape. Visual dominance refers to the degree to which this contrast would demand the attention of casual viewers. Scenic view obstruction refers to the degree to which the project would block or intrude upon scenic view corridors, particularly those identified in public policies. Overall visual change is rated on a scale of Low to Moderate to High.

In addition, the project is evaluated for conformance with applicable local plans and policies. Adopted expressions of local public policy pertaining to visual resources are given great weight in determining both visual quality and viewer concern.

The determination of which aesthetic changes cross a threshold of "substantial adverse effect" or degradation is based upon the criteria described in the methodology summary (above) and in Table 5.1-1, Visual Impact Significance Criteria. This table was used primarily as a consistency check, because determinations of visual sensitivity and visual change were based primarily on analyst experience and site-specific circumstances.

Implicit in this rating methodology is the acknowledgment that for a visual impact to be considered significant two conditions generally exist: (1) the existing landscape is of reasonably high quality and is relatively valued by viewers; and (2) the perceived incompatibility of one or more elements or characteristics of the project tends toward the high extreme, leading to a substantial reduction in visual quality.

Table 5.1-1. Visual Impact Significance Criteria

Visual Sensitivity	Visual Change				
	Low	Low to Moderate	Moderate	Moderate to High	High
Low	No impact[1]	No impact	Less Than Significant[2]	Less Than Significant	Less Than Significant
Low to Moderate	No impact	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant with Mitigation Incorporated[3]
Moderate	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant with Mitigation Incorporated	Less Than Significant with Mitigation Incorporated
Moderate to High	Less Than Significant	Less Than Significant	Less Than Significant with Mitigation Incorporated	Less Than Significant with Mitigation Incorporated	Potentially Significant Impact[4]
High	Less Than Significant	Less Than Significant with Mitigation Incorporated	Less Than Significant with Mitigation Incorporated	Potentially Significant Impact[4]	Potentially Significant Impact

1 - No Impact – Impacts may or may not be perceptible but are considered minor in the context of existing landscape characteristics and view opportunity.
2 - Less Than Significant – Impacts are perceived as negative but do not exceed environmental thresholds.
3 - Less Than Significant with Mitigation Incorporated – Impacts are perceived as negative and may exceed environmental thresholds depending on project and site-specific circumstances, but are Less Than Significant with mitigation incorporated.
4 - Potentially Significant Impact – Impacts with feasible mitigation may be reduced to levels that are not significant or avoided all together. Without mitigation, significant impacts would exceed environmental thresholds.

Aesthetics Impacts

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

NO IMPACT. For purposes of determining significance under CEQA, a "scenic vista" is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. The Project area is considered to have moderate-to-low visual quality. Public views of the site are primarily only available from SR 16 and are of flat agricultural lands as well as industrial uses. Due to the Project site and adjacent lands being developed with agricultural and industrial uses, the proposed Project site is not considered a scenic vista because it does not provide sustained high-value landscape for the benefit of the public. No impacts to scenic vistas would occur.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

NO IMPACT. The Project site does not contain any historic buildings or rock outcroppings. There are trees and modern buildings, but these would not be impacted by the proposed Project. Trenching and supporting structure installation would occur in proximity to trees, but these activities would not result in removal or damage to trees. No impacts to such scenic resources would occur.

Yolo County does not have any designated State Scenic Highways, though SR 128 was recently added to the eligibility list for official designation as a state Scenic Highway (Caltrans, 2021). However, the eligible portion of SR 128 is located over 13 miles southwest of the Project site. Therefore, views of the Project site are unavailable from this eligible scenic highway due to distance and flat topography. Yolo County General Plan Policy CC-1.13 designates five local scenic roadways. The following identifies the closest locally designated scenic roadways to the Project site:

- County Roads 116 and 116B (Knights Landing to eastern terminus of County Road 16)
- County Roads 16 and 117 and Old River Road (County Road 107 to West Sacramento)

The easternmost segment of County Roads 116 and 116B is located approximately 9 miles northeast of the Project site. The easternmost segment of County Roads 16 and 117 and Old River Road are approximately 9 miles east of the Project site. At these locations, views of the Project site are unavailable due to distance and flat topography. Therefore, the Proposed Project would have no impact on scenic roads or highways.

c. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of the public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

LESS THAN SIGNIFICANT IMPACT – CONSTRUCTION AND DECOMMISSIONING. The Project site is located in an agricultural area and is bounded by SR 16 that is adjacent to residences, existing agricultural lands, and industrial areas. The Project would primarily be visible to public viewers along SR 16. Other views from adjacent agricultural lands and residences on the opposite side of SR 16 are considered private views. Construction equipment, personnel, and activities would be seen by various public and private viewers in the immediate vicinity of the proposed site. During construction, there would be no visual screening, and views of construction activities would be apparent in the immediate foreground to residents and viewers traveling on SR 16. However, construction and decommissioning activities would be temporary, and therefore temporary visual impacts associated with Project construction would be less than significant.

*LESS THAN SIGNIFICANT IMPACT – OPERATIONS***.** Because the site is situated adjacent to agricultural lands with little development, the surrounding area is considered a non-urbanized area. The adjacent land uses are primarily agricultural, adjacent residences, and light industrial-related facilities.

While the proposed solar installation would cause an increase in the prominence of non-natural features and industrial character within the immediate foreground, foreground, and middleground views, based on the criteria in Table 5.1-1, the visual contrast is not considered to substantially alter the existing landscape or view quality. As shown in Figure 4-3, nearest sensitive receptors are residents on the opposite side of SR 16, approximately 200 feet from the Project area. The primary source of visual contrast occurs from the solar module frames, solar panels, and the 6-foot-tall chain link fence surrounding the perimeter of the Project site in contrast with the lighter vegetation and earth colors in the foreground and surroundings. The solar module color scheme, steel structures and dark PV modules, lends itself to

blending with the darker horizon line and sky. The PV system would be connected to batteries on the existing Bayer Crop Science facility via underground electric wires running west under the Bayer Crop Science facility parking lot and would, therefore, have no visual impact during operations.

Additionally, there would be a stable grassland/pollinator substrate planted below the PV system to support pollinators and to improve soil health. The flowering crops in addition to the 50-foot setback from the property line required for the array would reduce and serve to soften the visual contrast of the Project with the surrounding agricultural lands. Therefore, potential impacts of the solar facility would be less than significant.

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

DURING CONSTRUCTION AND DECOMMISSIONING, LESS THAN SIGNIFICANT IMPACT. Construction and decommissioning activities would be performed during daylight hours. Should nighttime lighting be needed, temporary construction lighting would be provided. All lighting would be removed at the conclusion of these activities. The potential for the Project to create a new source of light during construction and decommissioning is temporary and would therefore have a less than significant impact.

DURING OPERATIONS, NO IMPACT. No lights are planned to be installed in or around the PV system. The PV cells would be made from mono-crystalline materials covered by a glass panel, which would be dark in color, non-reflective, and highly absorptive of the sunlight that strikes their surfaces and would, therefore, not create a source of glare. With no installation of lights in or around the PV system and highly absorptive panels, the Project is not anticipated to result in light trespass or glare to these residential properties. For these reasons, there would be no impact.

Aesthetics Impact Conclusions

The Project would have minimal impacts to scenic vistas or scenic resources which consists of a mix of industrial, rural, and agricultural uses. The addition of a medium-sized PV solar system to support agricultural operations would result in a less than significant impact to the existing visual character or quality of the public views of the site and its surroundings. Additionally, night lighting during construction and decommissioning is temporary and would therefore not result in a significant impact.

5.2 Agriculture and Forestry Resources

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. **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

5.2.1 Setting

The proposed Project would disturb approximately 10.8 acres of a 39-acre agricultural parcel (APN 025-470-028) owned by Bayer Crop Science. The remaining undisturbed 28.2 acres would be farmed with row crops. An additional 0.2-acre would be disturbed on the adjacent parcel (APN 025-470-038), to the west of the solar field, for electrical connection to the BESS and associated equipment. The electrical connection is proposed to be placed underground and the associated equipment would be placed on existing hardscape. Therefore, this analysis will primarily focus on APN 025-470-028, where the majority of disturbance would occur. Both parcels are designated for Agriculture (AG) in the 2030 Countywide General Plan and zoned Agricultural Intensive (A-N). The primary purpose of the A-N Zone is for agriculture and agricultural support uses. The property is not under a Williamson Act contract. The parcel proposed for the solar panel field has historically been farmed by the neighboring Bayer Research Facility, but the land is currently being rested because the soil suffers from an infestation of fusarium—a fungus that negatively impacts the cultivation of tomatoes and peppers—which are crops of major focus at the research facility.

The California Department of Conservation (DOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to assess the location, quantity, and quality of agricultural lands and track conversion of these lands to other uses. Every even-numbered year, FMMP issues a Farmland Conversion Report. FMMP data are used in elements of some county and city general plans, in regional studies on agricultural land conversion, and in environmental documents as a way of assessing project-specific impacts on Prime Farmland.

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) (formerly Soils Conservation Service), classifies notable agricultural lands as follows:

- **Prime Farmland:** Land that has the best combination of physical and chemical properties for the production of crops.
- **Farmland of Statewide Importance:** Similar to Prime Farmland, but with minor shortcomings (e.g., steeper slopes, inability to hold water).
- **Unique Farmland:** Land of lesser quality soils, but recently used for the production of specific high economic value crops. Land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.
- **Farmland of Local Importance:** Defined for Yolo County as farmland, presently cultivated or not, having soils which meet the criteria for Prime or Statewide, except that the land is not presently irrigated, as well as other non-irrigated farmland.
- **Grazing Land:** Land on which the existing vegetation is suited to the grazing of livestock.
- **Urban and Built-Up Land:** Land occupied by structures with a building density of at least one unit per 1.5 acres. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures and other developed purposes.
- **Other Land:** Land not included in any other mapping category, for example, low density rural developments; brush, timber, wetland and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; water bodies smaller than 40 acres; and vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres in area.
- **Water:** Perennial water bodies with an area of at least 40 acres.

The proposed 10.8-acre developed area would be located entirely on designated Prime Farmland per the DOC (DOC, 2019). In addition to the agricultural land definitions above, DOC requires that for land to be classified and mapped as Prime Farmland and Farmland of Statewide Importance, it must have been used for irrigated agricultural production during the 4 years prior to the Important Farmland Map date. Irrigated land use is determined by DOC's FMMP staff through analysis of current aerial photos, local comment letters, and related GIS data, supplemented with field verification.

Regulatory Background

State Requirements

This section addresses the requirements of California Government Code Section 65560(b) related to agriculture and rangeland: "(b) 'Amount of land converted from agricultural use' means those lands that were permanently converted or committed to urban or other nonagricultural uses and were shown as agricultural land on Important Farmland Series maps maintained by the department and in the most

recent biennial report." In addition, it addresses Government Code Section 65560(h)(2), which reads: "(2) Open space used for the managed production of resources, including, but not limited to, forest lands, rangeland, agricultural lands, and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; bays, estuaries, marshes, rivers, and streams that are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.

Local Requirements

The following policies are presented in the Yolo County General Plan, Agriculture and Economic Development Element (Yolo County, 2009a).

Goal AG-1. *Preserve and defend agriculture and agricultural lands as fundamental to the identity of Yolo County.* This goal focuses on the County's key agricultural sectors as stated in Policy AG-1.1, including retaining existing growers and processors of crops, as well as emerging crops and processing, support of small and organic growers, and transfer of new technologies.

Policy AG-1.6. *Continue to mitigate at a ratio of no less than 1:1 the conversion of farmland and/or the conversion of land designated or zoned for agriculture, to other uses. This policy is implemented using the Agricultural Conservation and Mitigation Program, which is described below.*

Policy AG-1.14. *Preserve agricultural lands using a variety of programs, including the Williamson Act, Farmland Preservation Zones (implemented through the Williamson Act), conservation easements, an Agricultural Lands Conversion Ordinance, the Agricultural Conservation and Mitigation Program, and the Right-to-Farm Ordinance*

Goal AG-3. *Promote a healthy and competitive farm economy to expand the County's agricultural base.* This goal includes Policy AG-3.4, which calls for the recognition and protection of agricultural infrastructure, such as roads, water diversion and conveyance structures, processing facilities, and research and development.

The following goal and policy are presented in the Yolo County General Plan, Land Use and Community Character Element (Yolo County, 2009b).

Goal LU-2. *Preserve farmland and expand opportunities for related business and infrastructure to ensure a strong local agricultural economy. This goal is implemented through the programs noted in AG-1.14 above.*

The development standards for small, medium, large, and very large solar energy systems are regulated by Sections 8-2.1104 and 8-2.1105 of the Yolo County Code.

Yolo County Agricultural Conservation and Mitigation Program

Yolo County established its Agricultural Conservation and Mitigation Program in 2014, by adding a new section to the County Zoning Code (Yolo County Code Section 8-2.404; Yolo County, 2015). This section implements the agricultural land conservation policies contained in the Yolo County General Plan with a program designed to permanently protect agricultural land located within the unincorporated area. Mitigation shall be required for conversion or change from agricultural use to a predominantly non-agricultural use prior to, or concurrent with, approval of a zone change from agricultural to urban zoning, permit, or other discretionary or ministerial approval by the County.

With some exceptions regarding projects proposed near urban area boundaries, for projects that convert prime farmland, a minimum of 3 acres of agricultural land shall be preserved for each acre of agricultural

land changed to a predominantly non-agricultural use or zoning classification (3:1 ratio). For projects that convert non-prime farmland, a minimum of 2 acres of agricultural land shall be preserved for each acre of land changed to a predominantly non-agricultural use or zoning classification (2:1) ratio. Projects that convert a mix of prime and non-prime lands are required to use a blended mitigation ratio which reflects the percentage mix of converted prime and non-prime lands within project site boundaries (Yolo County, 2015).

5.2.2 Environmental Impacts and Mitigation Measures

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 Resources Agency, to Non-agricultural use?

LESS THAN SIGNIFICANT IMPACT. The proposed Bayer Woodland Solar Farm Project would occupy approximately 10.8 acres of the 39-acre agricultural parcel, classified as Prime Farmland. The primary soil types within the Project site are the Myers clay (Ms) and Rincon silty clay loam (Rg) (UC Davis and NRCS, 2021). Ms and Rg are both classified as Prime Farmland, Class I and II, if irrigated (DOC, 2016). The developed area would extend across designated Prime Farmland pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (DOC, 2019).

A medium-sized solar energy system is defined by the County's Solar Energy Systems Ordinance (Yolo County Code Section 8-2.1104(b); Yolo County, 2021) as a "private on-site or utility-scale solar energy conversion system consisting of many ground–mounted solar arrays in rows or roof-panels, and associated control or conversion electronics, occupying more than 2.5 acres and no more than 30 acres of land, and that will be used to produce utility power to on-site uses and/or off-site customers." Such facilities are permitted in the Agricultural Intensive (A-N) Zones, such as the Project site, with the issuance of a Minor Use Permit.

The Solar Energy Systems Ordinance requires medium-sized facilities to mitigate for the permanent loss of agricultural land, in accordance with the County's Agricultural Conservation and Mitigation Program (Yolo County Code of Ordinances Section 8-2.404) unless the development is defined as an agricultural use. The definition of Agricultural use in Sec. 8-2.404(b) specifically excludes medium-sized solar systems from the definition of agricultural uses that would be exempt from the mitigation requirement unless it can be reasonably determined that a medium-sized solar energy project generates energy solely to offset agricultural equipment demands on the project site and on any contiguous lands of the applicant, or, alternatively, that project implementation does not substantially diminish the agricultural productive capacity of the site. As described under section 4.2 of this report, the proposed PV field and battery storage system's objective is to provide energy to support the neighboring Bayer Crop Science facility by providing up to 70 percent of the facility's energy needs. Should the facility be enrolled in PG&E's net energy metering program, as planned, any excess electrical generation would be credited to Bayer for their use of energy generated off-site and Bayer will not receive any payment for excess energy produced that is not used on-site. The Bayer Crop Science facility is considered an agricultural use. Therefore, for the purposes of this analysis, the proposed Project has been determined to be a compatible agricultural use subject to the approval of a Minor Use Permit.

Soil disturbance would be limited to trenching for the underground utilities and the steel posts to support the PV modules. The posts would be set with a "concrete-free" solution to allow for easy site restoration after the planned 20-year life cycle of the project. The battery units would be located at previously developed areas of the Crop Research facility. The area between the solar arrays would be used to grow a stable grassland/pollinator plant substrate for habitat and fusarium remediation over the 20-year life

span of the project. After its 20-year life cycle, all equipment would be removed and compacted areas tilled and filled with clean, compatible substrate and topsoil and restored to pre-Project conditions.

In summary, the proposed medium-sized solar project is considered an agricultural support use that would not diminish the productive capability of the land and would not result in the conversion of prime farmland to non-agricultural use. Impacts to agricultural resources would be less than significant.

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

LESS THAN SIGNIFICANT IMPACT. The Project site is zoned Agriculture Intensive (A-N), which permits the siting of medium-sized solar projects such as the proposed Project, subject to approval of a Minor Use Permit by the Board of Supervisors upon a recommendation by the Planning Commission.

The Project site is not subject to the Williamson Act contract. Therefore, the impact would be less than significant.

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

NO IMPACT. As stated previously, the Bayer Woodland Solar Farm Project site is zoned A-N (Agricultural-Intensive). None of the proposed Project activities would occur on land zoned as forest, timberland, or timberland production. The construction, operations, and maintenance of the facility would not conflict with existing zoning of forest, timberland, or timberland production.

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

NO IMPACT. See response to part c., above.

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?

NO IMPACT. As identified previously in part a., the Project is considered a compatible agricultural use as it will directly provide for or offset the energy needs of the Bayer Crop Science facility. The Project would therefore not be considered a conversion of Farmland to non-agricultural use. Further, construction and operation of the Project would not result in conversion or non-agricultural use of neighboring farmland. Therefore, there would be no impacts from the conversion of Farmland to non-agricultural use.

Agriculture and Forestry Impact Conclusions

The proposed Project is considered a permitted use in agricultural zones with an approved Minor Use Permit, would directly provide for the power needs of an onsite agricultural use, and thus would not result in the permanent conversion of Prime Farmland to non-agricultural use.

5.3 Air Quality

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.3.1 Setting

Criteria Pollutants. Air quality is determined by measuring ambient concentrations of criteria pollutants. Air pollutants are those pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Unique meteorological conditions in California and differences of opinion by medical panels established by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (USEPA) cause considerable diversity between State and federal standards currently in effect in California. In general, the CAAQS are more stringent than the corresponding NAAQS. The standards currently in effect in California are shown in Table 5.3-1.

Table 5.3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour 8-hour	0.09 ppm 0.070 ppm	— 0.070 ppm
Respirable Particulate Matter (PM_{10})	24-hour Annual Mean	50 µg/m^3 20 µg/m^3	150 µg/m^3 —
Fine Particulate Matter ($PM_{2.5}$)	24-hour Annual Mean	— 12 µg/m^3	35 µg/m^3 12.0 µg/m^3
Carbon Monoxide (CO)	1-hour 8-hour	20 ppm 9.0 ppm	35 ppm 9.0 ppm
Nitrogen Dioxide (NO_2)	1-hour Annual Mean	0.18 ppm 0.030 ppm	— 0.053 ppm
Sulfur Dioxide (SO_2)	1-hour 24-hour Annual Mean	0.25 ppm 0.04 ppm —	— 0.14 ppm 0.03 ppm

Notes: ppm=parts per million; µg/m3= micrograms per cubic meter; "—" =no standard
Source: CARB (https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf), 2016.

Attainment Status and Air Quality Plans. The USEPA, California Air Resource Board (CARB), and the local air district classify an area as attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The proposed Project would be located within Yolo County, in the Sacramento Valley Air Basin, under the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD).

Table 5.3-2 summarizes attainment status for the criteria pollutants in the Project area with both the federal and state standards.

Table 5.3-2. Attainment Status for Yolo County

Pollutant	Federal Designation	State Designation
Ozone	Nonattainment	Nonattainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassified
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment

Source: YSAQMD, 2021.

As Table 5.3-2 shows, the proposed Project area is currently nonattainment of the state ozone and PM10 standards and the federal ozone and PM2.5 standards, and attainment or unclassified for all other state and federal standards.

Regulatory Background

Sources of air emissions in the Yolo County portion of the Sacramento Valley Air Basin are regulated by the USEPA, CARB, and YSAQMD. The relevant air quality regulations are under the authority of CARB and YSAQMD. The relevant programs and regulations under each of these two regulatory agencies are discussed below.

State

California Diesel Risk Reduction Plan. CARB has adopted several regulations that are meant to reduce the health risk associated with on- and off-road and stationary diesel engine operation. This plan recommended many control measures with the goal of an 85 percent reduction in diesel particulate matter (DPM) emissions by 2020. The regulations noted below, which may also serve to significantly reduce other pollutant emissions, are all part of this risk reduction plan.

Emission Standards for On-road and Off-road Diesel Engines. CARB has established emission standards for new on-road and off-road diesel engines. Off-road mobile sources include construction equipment. These regulations have model year-based emissions standards for NOx, hydrocarbons, CO, and particulate matter (PM). The earliest (Tier 1) standards for large compression-ignition engines used in off-road mobile sources became effective in California in 1996. These standards and California's separate regulation for existing "in-use" equipment jointly achieve public health benefits by reducing emissions NOx and toxic DPM.

In-use Off-road Vehicle Regulation. The State has also enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (CCR Title 13, Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for PM and NOx emissions from owners of fleets of diesel-fueled off-road vehicles and applies to off-road equipment fleets of three specific sizes where the target emission rates are reduced over time. Specific regulation requirements include:

- Limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;
- Requires all vehicles to be reported to the CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts adding older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits).

The construction contractor(s) who completes the construction activities for this Project would have to comply with the requirements of this regulation.

Heavy Duty Diesel Truck Idling Regulation. This CARB rule became effective February 1, 2005, and prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time, unless they are queuing, and provided the queue is located more than 100 feet from any homes or schools.

Statewide Portable Equipment Registration Program (PERP). PERP establishes a uniform program to regulate portable engines and portable engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, if the equipment is located at a single location for no more than 12 months. There may be construction equipment that would be required to be PERP registered, such as portable generators, but there are no known operating emission sources that would be subject to this regulation.

Local

Yolo-Solano Air Quality Management District Rules and Regulations. The following YSAQMD rules and regulations would apply to the proposed Project:

- Rule 2.3 Ringelmann Chart
- Rule 2.5 Nuisance
- Rule 2.14 Architectural Coatings

These rules apply during construction and operation. Rule 2.3 would specifically apply to fugitive dust emissions during construction and operation. Rule 2.5 would apply to construction operation odors and fugitive dust. Rule 2.14 would apply to the paints and other architectural coatings applied during construction and for facility upkeep during operation. The Project applicant has not identified any stationary sources that would require YSAQMD permitting.

YSAQMD Handbook for Assessing and Mitigating Air Quality Impacts. The YSAQMD recommends that CEQA lead agencies use threshold levels in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources in the Handbook for Assessing and Mitigating Air Quality Impacts (YSAQMD, 2007). The guidelines identify quantitative and qualitative long-term significance thresholds for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources.

The air quality thresholds of significance include:

- Reactive organic gases (ROG): 10 tons per year
- Oxides of nitrogen (NOx): 10 tons per year
- Particulate matter (PM10): 80 pounds per day
- Carbon monoxide (CO): Violation of State ambient air quality standard

- Cancer health risk: 10 in a million at maximally exposed individual (MEI)
- Chronic or acute health risk: hazard index (HI) equal or greater than 1

The guidelines include recommendations for construction fugitive dust and construction equipment exhaust mitigation strategies, where needed. Common measures for controlling construction dust include watering, chemical stabilization of soils or stockpiles, and reducing surface wind speeds with windbreaks. The guidelines identify feasible measures for controlling dust and list the types of sources of emissions subject to controls (YSAQMD, 2007). The Project would implement these feasible measures as needed to comply with YSAQMD Rule 2.3 and Rule 2.5.

The Project would not be a major transportation project or otherwise have CO emissions sources that would be substantial enough to cause a violation of the ambient air quality standard for CO. Therefore, the Project has no potential to exceed the CO threshold of significance.

5.3.2 Environmental Impacts and Mitigation Measures

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

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*. The Project would not substantially conflict with or obstruct implementation of the YSAQMD Air Quality Attainment Plan (1992), the Sacramento Area Regional Ozone Attainment Plan (1994), or subsequent updates to these plans for attaining and maintaining ozone ambient air quality standards. Similarly, Project activities would not substantially conflict with or obstruct implementation of strategies to meet PM10 or PM2.5 standards, or the goals and objectives of the County's General Plan. Both construction and decommissioning would be short-term activities that would not affect long-term projections for air quality attainment. All activities related to the Project's construction and decommissioning emissions would occur in compliance with all applicable YSAQMD rules and regulations. This analysis recommends incorporating MM AQ-1 to allow the Yolo County Department of Community Services Planning Division as Lead Agency to monitor and verify compliance with the dust control requirements. Therefore, although the proposed Project would not conflict with or obstruct implementation of any air quality management plan, the impact under this criterion would be less than significant with mitigation incorporated.

DURING OPERATION, *LESS THAN SIGNIFICANT IMPACT*. Project-related on-site operation and maintenance (O&M) activities would contribute a minor quantity of emissions due to site security and other upkeep activities that would occur in compliance with all applicable YSAQMD rules and regulations. Two to four employees would be required on-site during periodic maintenance activities. The proposed Project would increase the supply of renewable energy, which would contribute to the transition from conventional and polluting fossil-fueled energy resources for power generation. Therefore, the Project's operation would not conflict with or obstruct implementation of any air quality management plan, and the impact under this criterion would be less than significant.

Mitigation Measures

MM AQ-1 **Fugitive Dust Control.** A water truck(s) will be used for dust control purposes. Water will be the primary means of dust control and suppression, but dust palliatives may also be used as needed. Active construction sites will be watered at least two times daily to comply with the District rule to reduce particulate matter concentration. All vehicles traveling over unpaved, including graveled, areas shall travel at speeds at or below 15 miles per hour. Signs

identifying the maximum speed limit shall be placed at all site entrances during construction.

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?

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT IMPACT*. The proposed Project would generate temporary emissions during construction and decommissioning. Since emissions from decommissioning are expected to be less than from construction, this section focuses on construction emissions.

Table 5.3-3 provides a summary of the proposed Project's overall emissions resulting from the 3-month construction duration for comparison with the YSAQMD thresholds for VOC and NOx.

Table 5.3-3. Project Overall Construction Emissions (tons)

	VOC	NOx	CO	SOx	PM10	PM2.5
Overall Construction Emissions, without Dust Control Mitigation Measures	0.08	0.7	0.6	0.001	0.67	0.15
Overall Construction Emissions, with Dust Control Mitigation Measures	0.08	0.7	0.6	0.001	0.41	0.09
YSAQMD Significance Thresholds (tons/year)	10	10	N/A	N/A	N/A	N/A
Exceeds Significance Thresholds?	No	No	—	—	—	—

Notes: Results shown for Project with and without accounting for fugitive dust control mitigation measure.
Source: CalEEMod Results (1/14/2022).

Table 5.3-4 provides a summary of the proposed Project's maximum daily rate of emissions that result from construction for comparison with the YSAQMD threshold for PM10.

Table 5.3-4. Project Maximum Daily Construction Emissions (lbs./day)

	VOC	NOx	CO	SOx	PM10	PM2.5
Maximum Daily Construction Emissions, without Dust Control Mitigation Measures	1.9	17.85	16.34	0.045	17.57	5.04
Maximum Daily Construction Emissions, with Dust Control Mitigation Measures	1.9	17.85	16.34	0.045	11.32	2.84
YSAQMD Significance Thresholds (lbs./day)	N/A	N/A	N/A	N/A	80	N/A
Exceeds Significance Thresholds?	—	—	—	—	No	—

Notes: Results shown for Project with and without accounting for applicant's proposed fugitive dust control mitigation measures.
Source: CalEEMod Results (1/14/2022).

None of the pollutant emissions during construction would exceed YSAQMD emissions significance thresholds. The Project would be located in a non-attainment area for ozone, PM10, and PM2.5. However, as shown in Tables 5.3-3 and 5.3-4, the levels of PM10 and PM2.5 would not exceed YSAQMD emissions significance thresholds during construction and decommissioning activities, and MM AQ-1 would be implemented to allow the Lead Agency to monitor dust control requirements. Therefore, the proposed Project's construction and decommissioning would not contribute significantly to a cumulatively considerable net increase of any criteria pollutants, and this impact would be less than significant.

DURING OPERATION, *LESS THAN SIGNIFICANT IMPACT*. Project-related on-site O&M activities would contribute a minor quantity of emissions due to site security and other upkeep activities that would occur in compliance with all applicable YSAQMD rules and regulations. Two to four employees are estimated to perform O&M for the facility in quarterly intervals and, therefore, the daily emission rates for these O&M activities would be substantially less than those estimated for the construction phase and shown in Table 5.3-4. The proposed Project's operation would not contribute significantly to a cumulatively considerable net increase of any criteria pollutants, and this impact would be less than significant.

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

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT IMPACT*. During construction of the Project, and its decommissioning, use of gasoline and diesel fuel by on-site vehicles and equipment would create small quantities of toxic air contaminants, of which diesel particulate matter emissions would be the primary concern. No other sources of toxic air contaminants would occur during Project construction. During construction, on-site equipment and off-site on-road vehicle tailpipe emissions would be dispersed within the site, and also along the travel routes for the on-road vehicles. Considering the limited nature of construction emissions (within a 3-month duration), the low quantities of emissions potentially generated during construction, and the dispersion of construction-related contaminants within the site and along travel routes, construction emissions would be unlikely to lead to ambient concentrations that could expose any sensitive receptor to incur a cancer risk above 10 in a million or an acute or chronic hazard index of one or more. Therefore, the potential for the Project to expose sensitive receptors to substantial pollutant concentrations would be less than significant.

DURING OPERATION, *LESS THAN SIGNIFICANT IMPACT*. During O&M activities, use of gasoline and diesel fuel by on-site vehicles and equipment would create small quantities of toxic air contaminants, of which diesel particulate matter emissions would be the primary concern. No other sources of toxic air contaminants would occur during Project operation. During operations, diesel particulate matter emissions would be negligible because the Project would involve no routine use of heavy-duty diesel vehicles or equipment, except as occasionally needed for maintenance or repairs.

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

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT IMPACT*. Few sources of objectionable odors would occur as a result of construction or demolition-related activities, which would emit contaminates related to diesel exhaust, dust, and minor quantities of organic compounds. Project-related sources would be dispersed within the site, on a 39-acre parcel, with the nearest residence being along SR 16, approximately 200 feet north of Project site. Any construction-related odors would occur only for a short time.

DURING OPERATION, *LESS THAN SIGNIFICANT IMPACT*. The Project's operation would not involve any use of malodorous substances or activities that would cause significant odors. Therefore, the Project would not generate any odorous emissions in sufficient quantities to impact any considerable number of persons, and this impact would be less than significant.

Air Quality Impact Conclusions

No significant adverse impacts are identified or anticipated, and MM AQ-1 would be implemented to allow the Lead Agency to monitor dust control requirements.

5.4 Biological Resources

BIOLOGICAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife 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 Wildlife 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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

5.4.1 Setting

This section describes the biological resources that occur in the proposed Project area. It includes a description of the existing biotic environment, including common plants and wildlife, sensitive habitats, special-status species, and their locations in relation to the proposed Project. The following section (5.4.2) presents an analysis of potential impacts to biological resources and, where necessary, specifies mitigation measures to reduce potential impacts to less-than-significant levels. Information used in preparing this section was derived from:

- California Natural Diversity Data Base (CNDDB, 2020);
- Yolo County General Plan (Yolo County, 2009);
- Yolo County HCP/NCCP (ICF 2018; www.yolohabitatconservancy.org/);
- eBird (online database of bird observations) (https://ebird.org/home);
- Tricolored blackbird portal (https://tricolor.ice.ucdavis.edu/);
- Calflora (https://www.calflora.org/);
- Distribution, Abundance, and Habitat Associations of the Swainson's Hawk in Yolo County (Estep, 2020);
- Biological Resources Technical Report for the Bayer Solar Farm (Ascent Environmental, 2020);
- Aerial photographs and land use/vegetation maps of the project site and surrounding area; and
- Other local research, surveys, and environmental documents.

A field survey and site assessment were conducted on November 12, 2021, from approximately 1000 hours to 1400 hours. The survey was conducted by walking the perimeter of the Project and documenting land cover, natural communities, and plant and wildlife occurrences. The survey also extended approximately

0.25 miles from the Project boundary to determine the presence of special-status species and other natural communities or wildlife habitats that could be potentially indirectly impacted by the Project. Land uses, natural communities, and wildlife habitats were inspected, mapped, and photographed. Wildlife species occurrences were recorded using binoculars and a spotting scope, and potential habitat for each special-status species was documented. The survey was conducted to supplement the survey conducted on September 9, 2020, during the initial biological resource assessment of the Project site (Ascent Environmental, 2020).

Land Use

The Project would be sited on 10.8 acres of an agricultural field that has historically been cultivated and used for production of hay, grain, and row crops. Plowed, bedded, and consisting of seedling herbaceous vegetation during the survey, the field appears to have been unplanted in 2021. This is consistent with the results from the 2020 survey (Ascent Environmental, 2020). The field is zoned as A-N (Agricultural Intensive) and classified as Prime Farmland by Yolo County and Department of Conservation.

There is a narrow drainage ditch along the northern boundary of the Project site paralleling State Route (SR) 16 that appears to function as a stormwater runoff ditch, and a row of walnut (*Juglans* sp.) and valley oak (*Quercus lobata*) trees bordering the western boundary. The small portion of the Project site that includes underground electrical lines leading to the approximately 25-foot by 15-foot Tesla BESS site is on the adjacent Bayer Crop Science site, which is entirely developed.

Neighboring lands include other cultivated fields to the south, east, northeast, and northwest, a small industrial site adjacent to the northeast corner along the south side of SR 16, rural residential to the north and northwest, and industrial development to the west, including the adjacent Bayer Crop Science site facility.

Vegetation Communities

Biological communities on and immediately adjacent to the Project site consist entirely of irrigated agriculture (i.e., cultivated fields), and the narrow perimeter edges are considered incidental to agriculture including the narrow water conveyance ditch along the northern boundary, dirt field borders and access roads, and the tree row along the western border. Adjacent and surrounding lands are also cultivated farmland, developed, or rural residential. There are no sensitive biological communities or unique wildlife habitats on, or immediately adjacent to, the Project site. There are no wetlands or non-wetland waters subject to regulation by State or federal agencies present on, or immediately adjacent to, the Project site.

Irrigated Agriculture

Other than the small portion of the Project that extends onto the Bayer Crop Science site, the entire Project area consists of irrigated agriculture. However, the field has been idled for at least the past 2 years, aside from a winter cover crop, due to the presence of the soil-borne fungus fusarium. During the survey (and consistent with the 2020 survey), the field was plowed, bedded, and supported only weedy, herbaceous vegetation.

Although supporting a relatively low diversity of wildlife use, cultivated fields are essential habitat for species that have adapted to agricultural landscapes in the Central Valley. These fields support small rodent and insect populations, which in turn provide foraging habitat for several local raptor species, including red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), American kestrel (*Falco sparverius*), and great-horned owl (*Bubo virginianus*), as well as a variety of other birds and mammals. The Project field appears to have been most recently farmed in the tomato-wheat

rotation typical of this part of Yolo County, which supports abundant and accessible rodent prey for raptors, particularly during the harvest and post-harvest periods.

Incidental to Agriculture

Field access roads and ruderal edges occur around the perimeter of the Project. Temporary irrigation ditches may also be installed seasonally around the field; however, none were present during the survey. These are not cultivated areas but are considered incidental to agricultural operations and used primarily for access and irrigation water conveyance. There are no permanent irrigation or other water conveyance canals within or bordering the Project site, and no aquatic or wetland habitats on the Project site.

There is a drainage ditch along the northern boundary extending along SR 16 the length of the Project site. Culverted at the eastern and western ends of the Project site, this ditch appears to function as a stormwater runoff conveyance.

Tree rows, Groves, and Isolated Trees

There are no trees, shrubs, or other vegetation on the Project site. However, there is a row of walnut and valley oak trees along the western border on the west side of the farm access road, extending approximately 170 feet south of the southwest corner of the Project site. Several of these trees, including five valley oak trees and two walnut trees, are mature trees capable of supporting raptor nests or nest sites for other birds. A row of sixteen 20- to 30-foot-tall cottonwood (*Populus fremontii*) trees occur 200 feet south of the southwest corner. There are also several other tree rows, small tree groves, isolated trees, and trees around rural residences in the vicinity of the Project site.

Wetlands and Other Waters

There are no seasonal or permanent wetlands or other waters, including streams, ponds, or seasonal or permanent marshes on or immediately adjacent to the Project site. Irrigation canals and ditches may support wetland values and function, particularly along permanent canals with frequent flows and where wetland vegetation has developed. However, there are no canals or ditches on or immediately adjacent to the Project site that meet this condition. The roadside ditch on the northern boundary of the Project site along SR 16 supports ephemeral flows in the form of stormwater runoff and supports only nonnative weedy vegetation including Italian rye grass (*Festuca perennis*) and flax-leaved horseweed (*Erigeron bonariensis*) (Ascent Environmental, 2020). At the time of the survey, the ditch had been recently cleared and supported no vegetation. Although semi-permanent, the roadside ditch would not be subject to regulation by the U.S. Army Corps of Engineers (USACE) as waters of the United States or under state Regional Water Quality Control Board (RWQCB) jurisdiction as waters of the state. Ditches are considered to be within federal jurisdiction only if they have intermittent or perennial flow and were either constructed in, or relocated in, a natural tributary; or were constructed in an adjacent wetland and contribute perennial or intermittent flow to a traditionally navigable water in a typical year. In addition, ditches with ephemeral flow that are not a relocated water of the state or excavated in a water of the state are excluded as waters of the state. As a result, there are no regulated waters on or immediately adjacent to the Project site.

Seed processing operations at the adjacent Bayer Crop Science facility require water and an onsite wastewater discharge site. This discharge site, the nearest aquatic feature to the Project site, is located along the east-central edge of the facility. Water is discharged from the Bayer Crop Science facility into a canal approximately 250 feet south of the southwest corner of the Project site. The canal, which includes aerators spaced approximately 50 feet apart, is approximately 20 feet wide and extends southward for approximately 650 feet. A row of sixteen 20- to 30-foot-high cottonwood trees occurs along the west side

of the canal, which is otherwise sparsely vegetated. At its approximate mid-point, water from the canal is diverted into a percolation pond. The pond is approximately 400 feet by 140 feet, with several cottonwood trees around its perimeter and a small patch of cattail (*Typha latifolia*) at its northern end. Other vegetation consists of a variety of nonnative agricultural weeds. At the canal's southern terminus, remaining water is diverted into a smaller percolation pond, approximately 220 feet by 170 feet, which contains a dense patch of cottonwood and willow (*Salix* sp.) trees.

Special-Status Plants and Animals

Special-status species are generally defined as species that are assigned a status designation indicating possible risk to the species. These designations are assigned by state and federal resource agencies (e.g., California Department of Fish and Wildlife [CDFW], U.S. Fish and Wildlife Service [USFWS]), or by private research or conservation groups (e.g., National Audubon Society, California Native Plant Society). Assignment to a special-status designation is usually done on the basis of a declining or potentially declining population, either locally, regionally, or nationally. The extent to which a species or population is at risk usually determines the status designation. The factors that determine risk to a species or population generally fall into one of several categories, such as habitat loss or modification affecting the distribution and abundance of a species; environmental contaminants affecting the reproductive potential of a species; or a variety of mortality factors such as hunting or fishing, interference with man-made objects (e.g., collision, electrocution, etc.), invasive species, or toxins. For purposes of this assessment, special-status species are defined as follows:

- Species that are listed, proposed, or candidates for listing under the federal Endangered Species Act (FESA; 50 CFR 17.11 – listed; 61 FR 7591, February 28, 1996 – candidates);
- Species that are listed or proposed for listing under the California Endangered Species Act (Fish and Game Code [F&GC] 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.);
- Species that are designated as Species of Special Concern by CDFW;
- Species that are designated as Fully Protected by CDFW (F&GC, Sections 3511, 4700, 5050, and 5515;
- Species included on Lists 1B or 2 by the California Native Plant Society (CNPS);
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380).

A records search of CDFW's California Natural Diversity Data Base (CNDDB), and other sources of occurrence data (e.g., eBird, Tricolored Blackbird Portal, other survey efforts) provide the initial reference for special-status species occurrences on and around the Project site. However, a CNDDB records search encompasses a much larger area than the Project site and does not address the presence/absence of suitable habitat within the Project site. Instead, it is used as initial guidance to indicate the species that have been observed or have the potential to occur within the general area of the Project site and to focus the next step in the assessment on habitat availability. Potential for species to occur is then based on the presence/absence of suitable habitat on or in the vicinity of the Project site. Finally, specific surveys within suitable habitat determines the actual presence/absence of potentially occurring species.

Table 5.4-1 lists the special-status species with potential to occur in the vicinity of the Project site based on existing information about their local and regional distribution and species lists provided by CNDDB and other sources. The table also describes habitat associations; the presence/absence of suitable habitat; and whether or not the species has been reported from the Project site or observed during the field survey. Each species in Table 5.4-1 with potential to occur on or adjacent to the Project site is described in more detail below including habitat associations, the presence/absence of suitable habitat, and reported occurrences from existing records and this survey.

Table 5.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in Study Area
Plants			
Baker's navarretia *Navarretia leucocephala*	1B	Vernal pools	Absent
Round-leaved filaree *Erodium macrophyllum*	2	Grasslands	Absent
Adobe lily *Fritillaria pluriflora*	1B	Grasslands	Absent
Brewer's western flax *Hesperolinon breweri*	1B	Grasslands	Absent
Heckard's pepper-grass *Lepidium latipes v. heckardii*	1B	Alkali grasslands	Absent
Heartscale *Atriplex cordulata v. cordulata*	1B	Alkali grasslands	Absent
California alkali grass *Puccinellia simplex*	1B	Alkali grasslands	Absent
Alkali milkvetch *Astragalus tener v. tener*	1B	Alkali grasslands	Absent
Ferris' milkvetch *Astragalus tener v. ferrisiae*	1B	Alkali grasslands	Absent
Brittlescale *Atriplex depressa*	1B	Alkali grasslands	Absent
San Joaquin spearscale *Extriplex joaquinana*	1B	Alkali grasslands	Absent
Palmate-bracted bird's beak *Chloropyron palmatum*	1B, SE, FE	Alkali grasslands	Absent
Saline clover *Trifolium hydrophilum*	1B	Alkali grasslands	Absent
Colusa layia *Layia septentrionalis*	1B	Foothill woodland, chaparral, grassland	Absent
Keck's checkerbloom *Sidalcea keckii*	1B	Foothill woodland, grassland	Absent
Invertebrates			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Elderberry shrubs	Absent
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Vernal pools	Absent
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Vernal pools	Absent
Reptiles			
Western pond turtle *Actinemys marmorata*	SSC	Streams, ponds, canals	Absent
Giant garter snake *Thamnophis gigas*	FE, SE	Emergent wetlands, canals, rice fields	Absent

Table 5.4-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in Study Area
Birds			
Northern harrier *Circus hudsonius*	SSC	Grasslands, pastures, farmlands, seasonal wetlands	Possible
White-tailed kite *Elanus leucurus*	FP	Grasslands, seasonal wetlands, farmlands	Possible
Swainson's hawk *Buteo swainsoni*	ST	Grasslands, farmlands, pasturelands	Likely
Mountain plover *Charadrius montanus*	SSC	Grasslands, plowed fields (winter only)	Possible
Burrowing owl *Athene cunicularia*	SSC	Grasslands, field edges	Unlikely
Short-eared owl *Asio flammeus*	SSC	Grasslands, prairies, marshes	Absent
Bank swallow *Riparia riparia*	ST	Vertical cut-banks along streams	Absent
Loggerhead shrike *Lanius ludovicianus*	SSC	Grasslands, fields, pastures, woodland	Possible
Yellow-breasted chat *Icteria virens*	SSC	Riparian	Absent
Yellow warbler *Setophaga petechia brewsteri*	SSC	Riparian, conifer forests	Absent
Grasshopper sparrow *Ammodramus savannarum*	SSC	Grasslands	Absent
Tricolored blackbird *Agelaius tricolor*	ST	Marsh, bramble, pastures, grasslands, pastures, cultivated fields	Unlikely
Mammals			
Pallid bat *Antrozous pallidus*	SSC	Grasslands, shrublands, woodlands	Possible – foraging only
Townsend's big-eared bat *Corynorhinus townsendii*	SSC	Caves, bridges, buildings	Possible – foraging only
Western red bat *Lasiurus blossevillii*	SSC	Riparian, fruit orchards	Possible – foraging only

Definitions Regarding Potential Occurrence:

Present: Species or sign of its presence observed on the site
Likely: Species or sign not observed on the site, but reasonably certain to occur on the site
Possible: Species or sign not observed on the site, but conditions suitable for occurrence
Unlikely: Species or sign not observed on the site, conditions marginal for occurrence
Absent: Species or sign not observed on the site, conditions unsuitable for occurrence

STATUS CODES:

FT Federally Threatened
FE Federally Endangered
FC Federal Candidate
ST State Threatened
SE State Endangered
SC State Candidate
SSC California Species of Special Concern
FP Fully Protected
WL Watch List

CNPS	California Native Plant Society Listing
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3	Plants about which we need more information – a review list
4	Plants of limited distribution – a watch list
.1	Seriously threatened in California (high degree/immediacy of threat)
.2	Fairly threatened in California (moderate degree/immediacy of threat)
.3	Not very threatened in California (low degree/immediacy of threats or no current threats known)

Northern harrier

The northern harrier is a state species of special concern that nests on the ground in grassland, seasonal marsh, and occasionally in some cultivated habitats. The species is frequently observed throughout most of Yolo County; however, there are relatively few reported nest sites due to the difficulty confirming the location of ground nests. CNDDB (2020) reports very few nest sites, and none from the vicinity of the Project site. However, there are undoubtedly additional nesting territories in the general vicinity of the Project site. eBird reports numerous occurrences of the species in the vicinity of the Project site but does not report confirmed breeding sites. The Project site supports suitable cultivated foraging habitat for northern harrier, but potential nesting is dependent on the agricultural cover type in any given year.

Swainson's Hawk

The Swainson's hawk is a medium-sized raptor associated with generally flat, open landscapes. In the Central Valley it nests in mature native and nonnative trees and forages in grassland and agricultural habitats. Although a state-threatened species, the Swainson's hawk is common in Yolo County during the spring-summer breeding season due to the availability of nest trees and the agricultural crop patterns that are compatible with Swainson's hawk foraging. During a County-wide census in 2020, nearly 400 active nests sites were identified in Yolo County (Estep, 2020), 59 of which are within 5 miles of the Project site, and the nearest of which is approximately 0.4 miles northwest of the Project site.

The tree row bordering the western boundary of the Project site supports seven walnut and valley oak trees suitable for nesting. There are also four suitable cottonwood trees approximately 0.25 miles south of the southwest corner of the Project site and numerous suitable nest trees along tree rows and at rural residences within 0.25 miles north of the Project site. The Project site also supports suitable cultivated foraging habitat for Swainson's hawks.

White-tailed kite

The white-tailed kite, a state fully protected species, is a highly specialized and distinctively marked raptor associated with open grassland and seasonal wetland landscapes. It typically nests in riparian forests, woodlands, woodlots, and occasionally in isolated trees, primarily willow, valley oak, cottonwood, and walnut, and some nonnative trees. It forages in grassland, seasonal wetland, and agricultural lands, but is more limited in its use of cultivated habitats compared with the Swainson's hawk. As a result, the species occurs throughout most of Yolo County, but in low breeding densities (Dunk, 1995; Erichsen, 1995; Estep, 2020).

No white-tailed kites were detected during the survey and no nests have been reported from the immediate vicinity of the Project site. The nearest recently reported nest is approximately 5.5 miles southeast of the Project site along Willow Slough (Estep, 2020). Cache Creek Conservancy reports white-tailed kites on the Cache Creek Preserve during the breeding season (Cache Creek Preserve, 2016) and eBird reports numerous breeding season occurrences in the area, including near Esparto, south of Madison, and several 2020 occurrences along Cache Creek. The trees identified above for Swainson's hawk are also suitable

nest trees for white-tailed kite. The cultivated fields on the Project site represent suitable foraging habitat for this species.

Mountain Plover

The mountain plover (*Charadrius montanus*), a state species of special concern, was formerly an occasional winter visitor to a specific area of Yolo County, but reported occurrences have declined sharply in at least the last decade. The species arrives on its wintering grounds in California from November through December where it remains through March. During winter, the species roosts and forages in short grass prairies, pastureland, grazed grasslands, and occasionally—as with most of the reported occurrences in Yolo County—in disked agricultural fields (Manolis and Tangren, 1975; Hunting et al., 2001; Hunting and Edson, 2008). Small flocks had been observed in recently-plowed agricultural fields near Woodland and Davis, especially along County Roads 16, 25, 27, and 102 and in unflooded portions of the Yolo Bypass. CNDDB (2020) reports no occurrences in the vicinity of the Project site; however, eBird reports several sightings from 2000 in the Dunnigan Hills and Hungry Valley, northwest of the Project site. Mountain plover occurrence in cultivated fields is incidental and dependent on the condition of the field. All reported occurrences have been in plowed or prepared fields that are not planted and have virtually no vegetation. Although none were detected during the survey, the Project site could potentially support incidental winter occurrences of mountain plover.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia*), a state species of special concern, occurs in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots and remnant grassland or ruderal habitats within urbanizing areas. Historically nesting in larger colonies, due to limited nesting habitat availability, most of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs. The burrowing owl is a subterranean-nesting species, typically occupying the burrows created by California ground squirrels. They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and some agricultural habitats with low vegetative height. Key to burrowing owl occupancy are grassland or ruderal conditions that maintain very short vegetative height around potential nesting burrows (Gervais et al., 2008).

In Yolo County, burrowing owls occur mainly in the grassland and pasture habitats of the southern panhandle and in cultivated and ruderal habitats in the Davis area. Nesting and wintering occurrences have also been reported from the area immediately north of Winters, in the Dunnigan Hills, and elsewhere in the grassland foothills along the west side of the valley. Neither CNDDB nor eBird report any breeding or wintering occurrences on or in the immediate vicinity of the Project site. The cultivated field on the Project site supports marginal foraging habitat for burrowing owls. The only potential for occurrence is along the field edges; however, no evidence of ground squirrel use or other potential burrowing habitat was detected during surveys.

Loggerhead Shrike

The loggerhead shrike occurs in open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents, reptiles, and insects in pastures and agricultural lands (Humple, 2008). An underreported species in CNDDB, no records are available for Yolo County (CNDDB, 2020). However, eBird reports numerous incidental records throughout Yolo County, including the vicinity of the Project site. The grassland and oak savannah foothills along the

western edge of the valley are thought to be the highest value habitat for this species; but some cultivated landscapes may also provide suitable conditions for nesting and foraging.

No loggerhead shrikes were detected during surveys and no nests have been reported from the Project site or immediate vicinity (CNDDB, 2020; eBird, 2021). Potential nesting habitat occurs in the tree row along the western border of the Project site. The cultivated field represents suitable, although marginal, foraging habitat.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state-listed threatened species that nests in colonies from several dozen to several thousand breeding pairs. They have three basic requirements for selecting their breeding colony sites: open accessible water; a protected nesting substrate, including either flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Beedy and Hamilton, 1999). Nesting colonies are found in freshwater emergent marshes, in willows, blackberry bramble, thistles, or nettles, and in silage and grain fields (Beedy and Hamilton, 1999).

Most recently reported tricolored blackbird colonies in Yolo County occur in the eastern part of the county, including Conaway Ranch, locations in the Yolo Bypass, and along the western edge of the valley (CNDDB 2020; Tricolored Blackbird Portal). However, eBird reports numerous incidental non-breeding or foraging occurrences throughout the interior of the county. CNDDB also reports historic breeding locations that have long since been abandoned or the breeding habitat no longer exists. Although the cultivated field on the Project site may provide incidental foraging habitat, there is no breeding habitat for tricolored blackbirds on or in the vicinity of the Project site.

Special-status Bats

Three special-status bats potentially occur incidentally in the vicinity of the Project site, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), and western red bat (*Lasiurus blossevillii*), all state species of special concern. Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can forage in grasslands and agricultural areas. Townsends's big-eared bat occurs in a variety of woodland and open habitats, including agricultural areas. Western red bat occurs in wooded habitats, including riparian and fruit orchards, and grasslands. Pallid bat and Townsend's big-eared bat roost in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. Western red bat usually roosts in large trees (Pierson and Rainey, 1998; Pierson, 1998; Fellers and Pierson, 2002; Pierson et al., 2006).

Most reported occurrences are from the foothills and higher elevation areas of western Yolo County; however, CNDDB (2020) reports a red bat occurrence from the confluence of Dry Creek and Putah Creek in 2013. There are no suitable trees or other potential roosting habitat for these species on or in the vicinity of the Project site. The nearest marginally suitable roosting habitat for red bat is along Cache Creek, north of the Project site, or in mature orchards in the area. Although the agricultural landscape is not generally considered suitable habitat for these species, they could potentially hunt for insects above the Project site.

Special-status Plants

Table 5.4-1 lists 15 special-status plants known to occur in Yolo County. Calflora reports occurrences of these species from the general area; however, none have been reported from the Project site or surround-

ing area. These species are associated with foothill grassland, woodland, alkali grassland, and vernal pool habitats, none of which occur on or in the immediate vicinity of the Project site.

Regulatory Background

Several state and federal laws and regulations are relevant to the proposed Project. Each is briefly described below.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts of proposed projects be reduced to a less-than-significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented.

During the CEQA review process, environmental impacts are assessed, and a significance determination is provided based on pre-established thresholds of significance. Thresholds are established using guidance from CEQA, particularly Appendix G of the State CEQA guidelines and CEQA Section 15065 (Mandatory Findings of Significance). CEQA guidance is then refined or defined based on further direction from the lead agency.

Consistent with Appendix G of the State CEQA guidelines, a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in one or more of the following:

- *Substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;*
  - *A substantial adverse effect on a special-status wildlife species is typically defined as one that would:*
    - *Reduce the known distribution of a species,*
    - *Reduce the local or regional population of a species,*
    - *Increase predation of a species leading to population reduction,*
    - *Reduce habitat availability sufficient to affect potential reproduction, or*
    - *Reduce habitat availability sufficient to constrain the distribution of a species and not allow for natural changes in distributional patterns over time.*
- *Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or interference with the use of native wildlife nursery sites.*
  - *Substantial interference with resident wildlife movement is typically defined as obstructions that prevent or limit wildlife access to key habitats, such as water sources or foraging habitats, or obstructions that prohibit access through key movement corridors considered important for wildlife to meet needs for food, water, reproduction, and local dispersal.*
  - *Substantial interference with migratory wildlife movement is typically defined as obstructions that prevent or limit regional wildlife movement through the project area to meet requirements for migration, dispersal, and gene flow that exceed the defined baseline condition.*

Consistent with CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has 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 an endangered, rare or threatened species.*

CEQA defines the significance of an impact on a state-listed species based on the following:

- *Appendix G of the State CEQA guidelines states that a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in "substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS"; and*
- *CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to "substantially reduce the number or restrict the range of an endangered, rare or threatened species."*

State Endangered Species Act

The California Endangered Species Act (CESA) prohibits take of wildlife listed as threatened or endangered by the California Fish and Game Commission. *Take* is defined under the California Fish and Game Code as any action or attempt to "hunt, pursue, catch, capture, or kill." Like the FESA, CESA allows exceptions to the take prohibition for take that occurs during otherwise lawful activities. The requirements of an application for incidental take under CESA are described in Section 2081 of the California Fish and Game Code. Incidental take of state-listed species may be authorized if an applicant submits an approved plan that minimizes and "fully mitigates" the impacts of the take.

California Fish and Game Code

California Fully Protected Species. In the 1960s, before CESA was enacted, the California Legislature identified species for specific protection under the California Fish and Game Code. These "fully protected" species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Fully protected bird species are described in Section 3511 of the California Fish and Game Code. These protections state that "…no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to *take* any fully protected [bird], [mammal], [reptile or amphibian], [fish]."

California Fish and Game Code 3503 (Bird Nests). Section 3503 of the Fish and Game Code makes it unlawful to *take*, possess or needlessly destroy the nests or eggs of any bird. CDFW may issue permits authorizing *take*.

California Fish and Game Code 3503.5 (Birds of Prey). Section 3503.5 of the Fish and Game Code prohibits the *take*, possession, or destruction of any birds of prey or their nests or eggs. CDFW may issue permits authorizing *take*.

Yolo County General Plan

The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources and agricultural lands that provide wildlife habitat. Those most relevant to the proposed Project include the following:

- *Policy AG-1.5. Strongly discourage the conversion of agricultural land for other uses. No lands shall be considered for re-designation from Agricultural or Open Space to another land use designation unless all of the following findings can be made:*
  - *A. There is a public need or net community benefit derived from the conversion of the land that outweighs the need to protect the land for long-term agricultural use.*
  - *B. There are no feasible alternative locations for the proposed project that are either designated for non-agricultural land uses or are less productive agricultural lands.*
  - *C. The use would not have a significant adverse effect on existing or potential agricultural activities on surrounding lands designated Agriculture.*
- *Policy CO-2.1. Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.*
- *Policy CO-2.3. Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.*
- *Policy CO-2.38. Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds).*
- *Policy CO-2.41. Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.*

Yolo Habitat Conservation Plan & Natural Community Conservation Plan

The Yolo Habitat Conservation Plan & Natural Community Conservation Plan (Yolo HCP/NCCP) is a county-wide plan to provide for the conservation of 12 sensitive species, as well as natural communities and agricultural land on which they depend. Solar projects are not covered under the Yolo HCP but are recognized for their impacts to wildlife (Yolo Final HCP/NCCP; Section 5.8.4 Solar Farms). For the purposes of due diligence and mitigation continuity, mitigation measures provided in this Initial Study Section 5.4.2 for Swainson's hawk and white-tailed kite, follow Avoidance and Mitigation Measure guidelines provided in the Yolo HCP/NCCP.

5.4.2 Environmental Impacts and Mitigation Measures

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 Wildlife or U.S. Fish and Wildlife Service?

Habitat Modification – *LESS THAN SIGNIFICANT IMPACT*

The Project would occupy 10.8 acres of idle, cultivated land with a solar array that includes a substrate of grasses and pollinator plant species. No other natural communities or habitats would be directly or indirectly affected by the Project. Because of the Project site's small size, location, historic cultivation, and limited or lack of associated habitats, construction and operation of the Project is not expected to adversely affect any sensitive or special-status species. Overall ecological value is expected to increase due to the proposed management of the site. Operation of the solar array is also not expected to have any adverse effects on any sensitive or special-status species.

Special-Status Plants – *NO IMPACT*

The Project site does not support habitat for any of the special-status plant species known to occur in Yolo County, and therefore, the Project would have no impact on these species.

Special-Status Wildlife – *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*

Swainson's Hawk and White-tailed Kite

The Project site supports 10.8 acres of suitable agricultural foraging habitat for Swainson's hawk and white-tailed kite. The foraging habitat is similar to that found throughout the cultivated landscape of Yolo County and represents approximately 0.004 percent of the suitable foraging habitat in the County (Estep, 2020).

Several mature valley oak and walnut trees along the western edge of the Project site and several cottonwood trees within several hundred feet south of the Project site are considered suitable for nesting by these species. Although none of these trees will be removed by the Project, if nesting occurred and nesting birds were displaced due to construction disturbance, this would constitute a significant impact. Compliance with mitigation measure (MM) BIO-1, installation of the facility during the nonbreeding season (approximately August 15 to March 1), will avoid disturbances to the nest in the event it is active in subsequent years. There are no noise or visual disturbances associated with Project operation.

Representing 0.004 percent of the suitable foraging habitat in Yolo County, the proposed solar use resulting from the Project is not expected to affect the local or regional breeding population. In addition, because the Project site will be managed with a grassland and pollinator plant substrate, it is expected to support relatively high value habitat for rodent and insect prey species, and serve as a source of recolonization of rodent species into adjacent cultivated fields, similar to fallow or weedy fields or uncultivated grasslands and pastures. These benefits are expected to enhance the overall ecologic function of the site (Dolezal et al., 2021) and enhance foraging value to Swainson's hawks, white-tailed kites, and other raptors. Recent research has also shown that Swainson's hawks and other raptor species will continue to hunt within similarly sized and managed solar facilities that are integrated within a diverse agricultural matrix (Estep, 2021). Finally, because Yolo County supports a robust nesting population of over 400 nesting pairs and because there is an operational HCP/NCCP in the County designed to address the conservation and protection of this and other covered species, the use of 10.8 acres of irrigated cropland as a solar field managed to enhance biological values, including prey resources for the Swainson's hawk, is not considered a significant impact to Swainson's hawk.

MM BIO-1 **Potential Disturbance to Active Swainson's hawk and White-tailed Kite Nests.** To avoid potential impacts to Swainson's hawk and white-tailed kite, construction/decommissioning should occur during the nonbreeding season, August 15 to March 15, unless it is determined that there is no active nest present.

If construction/decommissioning is scheduled to occur during the breeding season, a qualified biologist shall conduct a preconstruction survey(s) within 15 days prior to the beginning of the construction activity. The biologist shall determine activity at potential nesting trees within a 1,320-foot radius area around the Project site. If active nests are found, a 1,320-foot non-disturbance buffer should be established around the nest to minimize disturbance.

If project related activities within the temporary nest disturbance buffer (1,320 feet) are determined to be necessary during the nesting season, then the qualified biologist will

monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior.

The qualified biologist shall be experienced in identification and behavior of Swainson's hawk and white-tailed kite, as well as typical courting and nesting behavior and suitable nest sites for both species.

A preconstruction report and monitoring reports, if applicable, will be submitted to CDFW within 30 days of the action.

Northern Harrier, Western Burrowing Owl, Loggerhead Shrike, Tricolored Blackbird, Mountain Plover

There is no suitable nesting habitat for northern harriers, western burrowing owls, loggerhead shrikes, tricolored blackbirds, or mountain plovers on the Project site. Although it is possible that these species could occasionally hunt or otherwise occur on the Project site, the use of the 10.8 acres of cultivated field as a solar array would not constitute a significant impact or need for mitigation or avoidance measures. By maintaining a grass/pollinator plant substrate on the Project site, foraging value may increase for some species.

Special-status Bats

No potential roosting habitat would be removed or otherwise disturbed by the proposed Project. Therefore, the Project would have no impact on pallid bat, western red bat, or Townsend's big-eared bat.

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, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

LESS THAN SIGNIFICANT IMPACT. The Project site does not support, and thus the Project would not remove or disturb, any sensitive natural communities. The Project would occupy 10.8 acres of cultivated field as a solar array with a managed grass substrate and planted with pollinator plants. The existing cultivated field is typically planted with row or grain crops, which are harvested in mid-to-late summer. Following harvest, the fields are disked and typically remain devoid of vegetation until the next planting. Although providing periodic habitat value to agriculture-associated wildlife, overall habitat value is limited and inconsistent throughout the year. In contrast, the grassland/pollinator substrate will provide consistent, year-round cover and value to grassland-associated species and value to a variety of pollinators. As a result, the placement and management of this medium-sized solar Project is not considered incompatible with ongoing agricultural uses in the surrounding area and the overall biological value of the Project site may be enhanced compared to its current use. Thus, the use of 10.8 acres of cultivated field as a solar array managed to enhance biological value is considered a less than significant impact.

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.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

NO IMPACT. There are no wetlands or regulated waters on or adjacent to the Project site. There are no streams or riparian corridors on or near the Project site. Thus, the Project would have no direct or indirect impact on wetlands or regulated waters.

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 wildlife nursery sites?

NO IMPACT. The Project is not located within a wildlife movement corridor. The site and surrounding landscape consist of similar topography and agricultural land use characteristics. The Project site and surrounding lands do not include unique topography or vegetation that would concentrate wildlife use or occurrence. Therefore, wildlife movement is expected to occur similarly over a broad geographic area. Thus, the Project would have no impact to wildlife movement corridors.

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

NO IMPACT. The Project would not conflict with any local policies or ordinances protecting biological resources.

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

NO IMPACT. The Project would not conflict with the provisions of the Yolo HCP/NCCP or other approved local, regional, or state habitat conservation plans.

Biological Resources Impact Conclusions

The proposed Project is designed such that biological resource values on the Project site are expected to increase over time. The conversion from an annually cultivated field to a stable grassland/pollinator plant substrate may enhance habitat value for a variety of invertebrate, mammal, and bird species. Integrated into an intensive agricultural landscape, these values are expected to provide onsite and offsite benefits for wildlife, soils, and related biological systems, while also providing the community benefit of clean, renewable energy. Only one potentially significant impact was identified: disturbance to an active Swainson's hawk nest. This impact can be avoided through the proposed mitigation (BIO-1), either avoidance through project construction/decommissioning scheduling, establishment of buffers, or through consultation with CDFW and potential compensatory mitigation.

5.5 Cultural Resources

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.5.1 Setting

Approach to Analysis of Cultural Resources and Previous Cultural Resources Studies

Cultural resources reflect the history, diversity, and culture of the region and the people who created them. They are unique in that they are often the only remaining evidence of activity that occurred in the past. Cultural resources can be natural or built, purposeful or accidental, physical, or intangible. They encompass archaeological, traditional, and built environmental resources, including buildings, structures, objects, districts, and sites.

Information presented in this section, and the subsequent analysis, was based on the information presented in a report entitled *Cultural Resources Assessment Report for the Bayer Woodland Solar Farm by* Lauren DeOliveira, Anne Maloney, and James Allan of Aspen Environmental Group (Aspen) (DeOliveira et al., 2021). It was provided to Yolo County as Confidential Appendix D.

Cultural Resources Study Area

The Project area is located approximately 0.25 miles west of the City of Woodland, immediately to the east of the Bayer Crop Science building at 37437 CA-16, Woodland, CA 95695 in unincorporated Yolo County and consists of 11 acres (Project area). An archaeological record search and an intensive pedestrian survey were conducted as part of the cultural resources inventory. The record search was conducted at the California Historical Resources Information System (CHRIS) Northwest Information Center (NWIC) in November of 2021, which consisted of a records search of the Project Area plus a 0.5-mile radius (Study Area) centered around the Project area. The intensive pedestrian survey of the Project area was also conducted in November of 2021 (DeOliveira et al., 2021).

Cultural Record Search Results

The record search revealed that four previously conducted studies have been completed within the Study Area, with two studies, conducted in 1988 and 2008, encompassing a portion of the Project area. Two historic era resources were previously documented within the Study Area; however, no previously recorded historic- or prehistoric-aged resources have been documented within the Project area (DeOliveira et al., 2021).

Pedestrian Survey

On November 18, 2021, an intensive archaeological survey of the of the Project area was conducted by Marc Robinson, M.A., Cultural Resources Specialist for Aspen. Mr. Robinson is qualified under the Secretary of the Interior's Qualification Standards and Guidelines for Archaeology and Historic Preservation and has in-depth familiarity with the prehistoric and historic period cultural resources of Yolo County. Mr.

Robinson used 15-meter transects to cover the entirety of the Project area with 55 percent average ground visibility.

Mr. Robinson examined the ground surface for the presence of prehistoric artifacts, historic-era artifacts, sediment discolorations that could indicate the presence of cultural features, and depressions or other features that could indicate the presence of structures or foundations.

No prehistoric or historic-era resources were observed during the survey.

Native American Heritage Commission

On October 10, 2021, Aspen requested that the Native American Heritage Commission (NAHC) complete a search of its Sacred Lands Files to determine if resources significant to Native Americans have been recorded within the Project footprint. On November 18, 2021, Aspen received a response from the NAHC stating that the search of its Sacred Lands File was negative for the presence of resources within the Project footprint. The NAHC also provided its contact list of Native American tribal governments to contact for additional information regarding resources in the area. The County's tribal outreach efforts are discussed in Section 5-18 Tribal Cultural Resources.

Environment

The area surrounding the proposed Project is intensively farmed alluvium, with large commercial/business spaces immediately to the east and west of the Project. The portion of the property on which the solar array would be constructed, currently owned by Bayer Crop Sciences, has been farmed for decades and is zoned as Agricultural Intensive (A-N.)

This Project area is within the Sacramento–San Joaquin River Delta (Delta) watershed, located approximately 2 miles southeast of the bend in Cache Creek where it turns northeast and has historically had drainage canals near and through the property at various times. The climate in the vicinity of the Project site is mild with average annual maximum temperature of 75 degrees Fahrenheit and average annual minimum temperature of 50 degrees Fahrenheit, with winter rains and dry summers, and an average annual rainfall of approximately 21 inches.

Prehistory

The prehistory of the Sacramento Valley has been described in terms of general modes of life characterized by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture. Three general patterns of resource use for the period between 4500 years before present (B.P.) and the contact period include the Windmiller, Berkeley, and Augustine patterns (DeOliveira et al., 2021).

The Windmiller Pattern (4500 B.P.–2500 B.P.) shows evidence of a mixed economy that relied on the procurement of game and plant foods. The archaeological record contains numerous projectile points and a wide range of faunal remains. Fishing was also important.

The Windmiller Pattern ultimately changed to a more specialized adaptation termed the Berkeley Pattern (2500 B.P.–1500 B.P.). A reduction in the number of handstones and millingstones and an increase in mortars and pestles is inferred to indicate a greater dependence on acorns. Although gathered plant resources gained importance during this period, the continued presence of projectile points and atlatls (spear-throwers) in the archaeological record indicates that hunting was still an important activity.

The Berkeley Pattern was superseded by the Augustine Pattern around 500 CE. The Augustine Pattern reflects a change in subsistence and land use patterns to those of the ethnographically known people (Patwin, Plains Miwok) of the historic era. This pattern exhibits a great elaboration of ceremonial and social organization, including the development of social stratification. Exchange became well developed, with an even more intensive emphasis on the use of the acorn, as evidenced by shaped mortars and pestles and numerous hopper mortars. Other notable elements of the Augustine Pattern's artifact assemblage include flanged tubular smoking pipes, harpoons, clamshell disc beads, and an especially elaborate baked clay industry, which included figurines and pottery vessels (Cosumnes Brownware).

The presence of small projectile point types, referred to as the Gunther Barbed series, indicates the use of the bow and arrow. Other traits associated with the Augustine Pattern include the introduction of pre-interment burning of offerings in a grave pit during mortuary rituals, increasingly sedentary villages, population growth, and an incipient monetary economy in which beads were used as a standard of exchange.

Ethnography

Yolo County includes portions of the territories of two Native American groups: the Patwin and, to a lesser extent, the Plains Miwok. The western hills and mountains of the County and the lower grassland plains and oak groves were inhabited by the Hill Patwin, while the banks of the Sacramento River and associated riparian and tule marshland habitats were inhabited by the River or Valley Patwin. The Plains Miwok used this area as well.

The material culture and settlement-subsistence practices of the Patwin and the Plains Miwok share similar traits, likely because of historical relationships and an often-shared natural environment. Historical maps and accounts of early travelers to the Sacramento Valley testify that tule marshes, open grasslands, and occasional oak groves characterized the lower elevations near the Sacramento River and Delta. This part of the County was inundated in the winter and exceedingly dry in summer. Because of this, much of the floodplain was sparsely inhabited and Native Americans typically situated their larger, permanent settlements on higher ground along the Sacramento River. Hill Patwin tribelets lived in intermontane valleys on the eastern side of the North Coast Range, their populations concentrating in particularly dense numbers along Cache and Putah creeks.

Regional History

The historic period of California can be broken into three periods: the Spanish Period, the Mexican Period, and the American Period.

Spanish Period (1769 to 1821). Starting in 1769 at what would become San Diego, Spain sought to reinforce its claims to California, as a territory of Mexico, by establishing a series of missions to pacify and Christianize the Indians, with the object of making them stable, tax-paying citizens of Mexico. The Central Valley was explored by Spaniards as early as 1808. During the early 1800s, the region was also explored by hunters and trappers who found the banks of the rivers and streams rich with beaver and otter. They used to "cache" their pelts near Cache Creek, hence the name.

Mexican Period (1821 to 1848). Mexico gained its independence from Spain in 1821, and Alta California became one of the provinces of the new Republic of Mexico. After the government secularized the missions, starting in 1834, a series of large land grants (ranchos) that transferred mission properties to private ownership were awarded by the various governors of California. Land grants were also awarded in the interior to encourage settlement away from the coastal areas that were colonized during the Spanish Period. Captain John Sutter received the two largest land grants in the Sacramento Valley. In

1839, Sutter founded a trading and agricultural empire called *New Helvetia*, which was headquartered at Sutter's Fort near the divergence of the Sacramento and American rivers, in Valley Nisenan territory.

American Period (1848 to the Present). California became part of the United States as a consequence of the 1846–1847 Mexican War and was admitted as a state in 1850. The Gold Rush transformed Yolo County from an isolated farming community to a booming agricultural region, as disenchanted miners realized they could make a greater fortune through farming and ranching rather than gold prospecting.

Regulatory Background

State

California Environmental Quality Act. The California Environmental Quality Act (CEQA) establishes that historical and archaeological resources must be afforded consideration and protection by CEQA (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under two regulatory designations: historical resources, and unique archaeological resources.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR [California Register of Historic Resources];" or "a resource listed in a local register of historical resources or identified as significant in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code;" or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]).

Local

County of Yolo. Action CO-A63 of the Conservation and Open Space Element of the Yolo County 2030 General Plan (Yolo County, 2009) requires cultural resources inventories of all new development projects in areas where a preliminary site survey indicates a medium or high potential for archaeological, historical, or paleontological resources. In addition, it requires a mitigation plan to protect the resource before the issuance of permits. Mitigation may include:

- Having a qualified archaeologist present during initial grading or trenching;
- Redesign of the project to avoid historic resources;
- Capping the site with a layer of fill; and/or
- Excavation and removal of the historical resources and curation in an appropriate facility under the direction of a qualified professional. (Policy CO-4.1, Policy CO-4.13)

5.5.2 Environmental Impacts and Mitigation Measures

a. Would the project cause a substantial adverse change in the significance of an historical resource pursuant to §15064.5 [§15064.5 generally defines* historical resource *under CEQA]?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The record search and intensive pedestrian survey did not identify any known historical resources in the Project area. However, ground-disturbing activity, such as grading, trenching, or excavations, has the potential to impact unknown buried resources that may be considered significant under CEQA. Implementation of Mitigation Measures (MMs) CUL-1, CUL-2, and CUL-3, described below, would reduce impacts to unknown resources to a less than significant level.

MM CUL-1 **Cultural Resources Awareness Training.** Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist meeting federal criteria under 36 CFR 61 and a member of the Yocha Dehe Wintun Nation regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Awareness Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

MM CUL-2 **Inadvertent Discovery of Historical Resources, Unique Archaeological Resources or Tribal Cultural Resources.** If previously unidentified cultural resources are uncovered during construction activities, construction work within 50 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior-qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the County, the Yocha Dehe Wintun Nation, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the find(s) is found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA (PRC §21083.2), or is determined to be tribal cultural resource as defined in PRC §21074.

MM CUL-3 **Treatment of Human Remains.** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, because it could be a crime scene. The Coroner would determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined that the remains are archaeological/historic-era, the Coroner would make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC would immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours from the time given to access the site to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The record search and intensive pedestrian survey did not identify any known archaeological resources in the Project area. However, ground-disturbing activity, such as grading, trenching, or excavations, has the potential to impact unknown buried resources that may be considered a unique archaeological resource per CEQA. Implementation of MMs CUL-1, CUL-2, and CUL-3 would reduce impacts to unknown resources to a less than significant level.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. No known human remains, or informal, undocumented cemeteries were identified within the Project area as a result of the record search, archival research, NAHC Sacred Lands File Search, or intensive pedestrian survey. In the unlikely event unknown buried human remains are encountered during ground disturbing activity, the implementation of MMs CUL-1, CUL-2, and CUL-3 would reduce potential impacts to a less than significant level.

Cultural Resources Impact Conclusions

The record search and intensive pedestrian survey did not identify any known historical resources in the Project area. However, ground disturbing activity, such as grading, trenching, or excavations, has the potential to impact unknown buried resources that may be considered a unique archaeological resource per CEQA. Implementation of MM CUL-1, MM CUL-2, and MM CUL-3 would reduce impacts to unknown resources to a less-than-significant level.

5.6 Energy

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.6.1 Setting

Power is generated in Yolo County from a variety of sources including fossil fuels, natural gas fields, hydroelectric facilities, solar energy, hydrogen fuels, and biofuels. Natural gas is actively produced from 25 gas fields located throughout the entire County. There is also a storage area known to hold a maximum capacity of 3.25 billion cubic feet of natural gas. The Yolo County Flood Control and Water Conservation District operates two hydroelectric plants in Lake County, with a combined capacity of 4,750 kilowatts. The County also hosts two waste-to-energy facilities that operate on biofuels such as agricultural and wood wastes as well as landfill gas.

The proposed Project is within the Pacific Gas & Electric (PG&E) service area and would have a generating capacity of 2 megawatts of alternating current (MWac) of renewable electric energy. The electricity generated by the PV field would provide electricity for the adjacent Bayer Crop Science site and for charging the BESS. The BESS would discharge the stored energy during the evening peak power demand when the solar generation drops off. Any excess electricity not used to power the Bayer Crop Science facility or the BESS, would be credited to Bayer through a Net Energy Metering (NEM) Program with PG&E.

Regulatory Background

State

Senate Bill 100 (SB 100) calls for 100 percent of all electricity sold in California to be generated from renewable sources by the year 2045.

Assembly Bill 32 (AB 32) calls for greenhouse gas (GHG) reduction strategies that include a reduction mandate to 1990 levels by 2020.

Executive Order B-30-15 established a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030, to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

Local

Yolo County General Plan. The following policies are presented in the Yolo County General Plan, Conservation and Open Space Element (Yolo County, 2009a):

Policy CO-7.3 *Require all projects to incorporate energy-conserving design, construction, and operation techniques and features into all aspects of the project including buildings, roofs, pavement, and landscaping.*

Policy CO-7.9 *Require that new site and structure designs maximize energy efficiency.*

The following policies are presented in the Yolo County General Plan, Land Use and Community Character Element (Yolo County, 2009b):

Policy CC-4.1 *Reduce dependence upon fossil fuels, extracted underground metals, minerals and other non-renewable resources by:*

- *Requiring projects to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.*
- *Encouraging projects to use regenerative energy heating and cooling source alternatives to fossil fuels.*
- *Encouraging projects to select building materials that require less energy-intensive production methods and long-distance transport, in compliance with Leadership in Energy and Environmental Design (LEED) or equivalent standards.*

Policy CC-4.12 *Require "green" design, construction and operation including:*

- *Site planning sensitive to the natural environment.*
- *Efficiency in resource use (including energy, water, raw materials and land).*
- *Building reuse and adaptive reuse.*
- *Selection of materials and products based on their life-cycle environmental impacts.*
- *Use of materials and products with recycled content.*
- *Use of materials provided from within the region.*
- *Recycling of construction and demolition waste.*
- *Reduction in the use of toxic and harmful substances in the manufacturing of materials and during construction.*
- *Use of passive and active solar strategies and efficient heating and cooling technologies.*
- *Reduction in water use for buildings and landscaping.*
- *Light pollution reduction to protect "dark skies."*
- *Improvements to interior and exterior environments leading to increased health, comfort and productivity.*
- *Facility maintenance and operational practices that reduce or eliminate harmful effects on people and the natural environment during occupancy.*
- *Water reuse systems*
- *Other systems to capture energy sources that would otherwise be wasted.*

The following policies are presented in the Yolo County General Plan, Public Facilities and Services Element (Yolo County, 2009c):

Policy PF-10.1 *Pursuant to AB 117 (Statutes of 2002) explore "community choice aggregation" as a means of facilitating the purchase of electrical energy at the local level for community needs.*

Policy PF-10.2 *Streamline the permitting process for the production of energy alternatives (including but not limited to photovoltaic, solar, wind, biofuels, and biomass), to reduce dependency on fossil fuels.*

Policy PF-10.3 *Provide financial and regulatory incentives for the installation of alternative energy and alternative energy conservation measures in all development approvals.*

Policy PF-11.1 *Encourage the development of power generating and transmission facilities in appropriate alignments and locations, sufficient to serve existing and planned land uses.*

Policy PF-11.5 *Increase the availability and reliability of power to the rural areas, including underserved communities.*

Yolo County Climate Action Plan. The Yolo County Climate Action Plan (CAP) establishes a goal to reduce 2008 emissions back to the 1990 estimated levels. It establishes 15 programs to achieve this target. Among them is to increase the use of renewable energy generation.

5.6.2 Environmental Impacts and Mitigation Measures

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 consists of construction and operation of a solar energy facility. Construction and decommissioning of the Project would result in the consumption of fossil fuels for the transportation of workers to and from the site, and for the delivery of materials and equipment. However, because construction and decommissioning activities are temporary, expected to last 3 months each, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy sources. Operation would provide 2 MWac of renewable generating capacity and a renewable supply of electricity to support the existing Bayer Crop Science facility's demands. Therefore, the potential environmental impact related to use of energy resources 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. Development and operation of the Project would support both County and State policies for the reduction of greenhouse gasses (GHG) and the use of renewable energy. The Proposed Project is consistent with policies PF-10.1, CO-7.9, CC-4.1 and CC-4.12 in the Public Facilities and Services Element, Conservation and Open Space Element, and the Land Use and Community Character Element of the Yolo County General Plan. The Project is also consistent with California renewable energy goals, including SB 100 calling for all electrical generation to be from renewable sources; AB 32 which calls for GHG reduction strategies; and Executive Order B-30-15, which established a new interim statewide GHG emission reduction target.

Energy Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.7 Geology and Soils

GEOLOGY AND SOILS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to 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 geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater 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?	☐	☐	☒	☐

*Geology and Soils question (d) reflects the current 2016 California Building Code (CBC), which is based on the International Building Code (2015), effective January 1, 2017. The CBC is updated every 3 years.
Significance criteria established by CEQA Guidelines, Appendix G.

5.7.1 Setting

Regional Geologic Setting

Approximately 70 percent of the eastern portion of Yolo County is located in the Great Valley physio-graphic province of California and consists of gently sloping-to-level alluvial plains with sediments sourced from the Coast Ranges to the west and the Sierra Nevada to the east. This province is approximately 400 miles long and extends from the Klamath Mountains and the Cascade Range in the north to the Transverse Ranges to the south. Sediments were deposited in this valley primarily during the late Mesozoic Era when the valley comprised an ancient seaway and later in the Cenozoic from river deposition (Geo-engineering Solutions, Inc., 2020). The remaining portion of the County is in the Coast Range geomorphic province.

Local Geology and Soils

Yolo County hosts an array of soil types that benefit the widespread agriculture throughout the County. Soils within the proposed Project area reflect the underlying rock type, the extent of weather of the rock, the degree of slope, and the degree of human modification. A review of the Natural Resources Conservation Service (NRCS) Web Soil Survey revealed two soils within the Project footprint, the first being

Myers clay, and the second Rincon silty clay loam (NRCS, 2021). Most of the Project site is mapped as underlain by the Rincon silty clay loam, with the Myers clay located in the southeastern corner of the Project site (NRCS, 2021). Rincon silty clay loam is well drained, found on alluvial fans with slopes of 0 to 1 percent, and is formed in alluvium derived from sedimentary rocks. The Myers clay soil unit, Major Land Resource Area (MLRA) 17, is moderately drained, found on basin floors and alluvial fans with slopes of 0 to 1 percent, and is formed in clayey alluvium derived from igneous, metamorphic, and sedimentary rocks. Select characteristics of the soils underlying the Proposed Project site are included in Table 5.7-1.

Table 5.7-1. Soils in the Project Disturbance Area

Name	Corrosion Potential to Uncoated Steel/Concrete	Erosion Potential for Water/Wind	Expansion Potential
Myers clay, 0 to 1 percent slopes, MLRA 17	High/Low	Moderate/Moderate	High to Very High
Rincon silty clay loam	High/Low	Moderate/Moderate	Moderate

Source: NRCS Web Soil Survey (NRCS, 2021)

As noted in the Project Description, the PV support structures are typically mounted on foundations of steel beams or tubes directly embedded into the ground up to a depth of 8 feet depending upon loading and soil conditions. In addition, concrete pillar foundations will be required for the BESS which consists of Tesla Powerpack Units and one Tesla Powerpack Inverter housed in small, sealed containers on a single concrete pad approximately 25 feet by 15 feet. The depth of these pillar foundations will be approximately 12 inches. The batteries would be connected to the system via underground electrical wires. Trenching would be performed for placement of underground electrical connection lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment, and water trucks. Trenching would be a maximum of 36 inches deep.

The Geotechnical Engineering Study completed as part of the application materials submitted for this Project consisted of a literature review, field exploration, and laboratory testing (Geo-Engineering Solutions, Inc., 2020). The preliminary soil sampling and testing conducted during this geotechnical investigation indicates that the soils are likely moderate to highly expansive and have high corrosive potential to uncoated steel and low corrosive potential to uncoated concrete (Geo-Engineering Solutions, Inc., 2020).

Slope Stability

Landsliding is the natural process of relatively rapid downslope movement of soil, rock, and rock debris as a mass. The potential for and rate of landsliding is affected by the type and extent of vegetation, slope angle, degree of water saturation, strength of the rocks, and the mass and thickness of the deposit. Some of the natural causes of slope instability are earthquakes, weak materials, stream and coastal erosion, and heavy rainfall. In addition, certain human activities tend to make earth materials less stable and increase the chance of ground failure. The Project area is located on relatively flat agricultural land that is bordered by relatively flat agricultural land to the north, west, east, and south. Due to the flat topography of the Project area, there is no landslide susceptibility.

Seismicity

While Yolo County has a low probability for earthquake hazards compared to the rest of California, it would still be subject to seismic hazards from earthquakes on local and regional faults; and thus, there is a risk of damage to structures and property as a result. Future earthquake activity could affect the Project site with ground shaking.

Earthquakes on the major faults of the Coast Ranges and the Sierra Nevada foothills could produce ground shaking that could affect Yolo County residents (Yolo County, 2009b). Major faults in the Coast Ranges include several faults of the Great Valley thrust system, the Hunting Creek–Berryessa fault, the Green Valley fault zone, the West Napa fault, and the Hayward–Rodgers Creek fault zone, and the San Andreas fault zone. The Foothills fault system is located along the eastern edge of the Sacramento Valley within the western Sierra Nevada foothills (USGS, 2021a).

Faults closest to the Project site include the active Hunting Creek–Berryessa fault system, the active Green Valley fault zone, the potentially active Dunnigan Hills fault, and several segments of the Great Valley thrust fault system. The closest fault to the Project site, the Dunnigan fault is located approximately 8 miles east of the Project site and is considered potentially active, but not considered by the California Geological Survey (CGS) as likely to generate surface rupture (LSA Associates, 2009). The active Hunting Creek–Berryessa fault system and active Green Valley fault zone are both located approximately 23 miles west of the Project site. Portions of both of these faults are within Alquist-Priolo Earthquake Zones (CGS, 2021). The Great Valley Thrust system faults are located along the western edge of the valley and are blind thrusts that do not reach the surface but are considered a potential seismic hazard by the USGS (USGS, 2021b); the closest Great Valley Thrust faults to the Project site are the Mysterious Ridge (Great Valley 3) and Trout Creek (Great Valley 4a) sections both located approximately 13 miles west of the Project site (USGS, 2021b).

Paleontology

A paleontological records search was conducted for this Project from the records of the University of California Museum of Paleontology (Holroyd, 2021). No fossil resources were identified at or near the Project area. The closest fossil locality found was identified approximately 3 miles northwest of the Project site and consisted of fragmentary horse fossils in Pliocene Tehama Formation (Holroyd, 2021).

Regulatory Background

Federal

Clean Water Act. The Clean Water Act (CWA) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the U.S. (WOUS). The CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point-source discharges of pollutants into WOUS for construction activities that disturb one or more acres. The NPDES Program is a federal program that has been delegated to the State of California for implementation through the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The SWRCB and RWQCBs grant NPDES permits and set waste discharge requirements for stormwater runoff from construction sites through NPDES Construction General Permits. The Construction General Permit requires the implementation of a Storm Water Pollution Prevention Plan (SWPPP), which specifies best management practices (BMPs) and other measures designed to avoid or eliminate pollution discharges into waters of the U.S.

State

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act regulates development in California near known active faults due to hazards associated with surface fault ruptures. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction. Areas within an Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for

surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

California Building Code. The California Building Code (CBC) prescribes standards for constructing safer buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions, such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every 3 years and is based on the International Building Code; the current version is the 2019 CBC.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) provides protection for paleontological resources through environmental legislation. Direction regarding significant impacts on paleontological resources is found in Appendix G of the CEQA Guidelines. Per section 5097.5 of the Public Resources Code, removing paleontological remains without authorization is unlawful and can result in a misdemeanor. In addition, Section 622.5 of the California Penal Code confirms that damage or removal of paleontological resources is a misdemeanor.

Local

County of Yolo. Action CO-A63 of the Conservation and Open Space Element of the Yolo County 2030 General Plan (Yolo County, 2009a) requires cultural resources inventories of all new development projects in areas where a preliminary site survey indicates a medium or high potential for archaeological, historical, or paleontological resources. In addition, it requires a mitigation plan to protect the resource before the issuance of permits. Mitigation may include:

- Having a qualified paleontologist present during initial grading or trenching;
- Redesign of the project to avoid paleontological resources;
- Capping the site with a layer of fill; and/or
- Excavation and removal of the paleontological resources and curation in an appropriate facility under the direction of a qualified professional. (Policy CO-4.1, Policy CO-4.13)

Action CO-A65 of the Conservation and Open Space Element requires that when paleontological artifacts are encountered during site preparation or construction, all work within the vicinity of the discovery is immediately halted and the area protected from further disturbance.

The Health and Safety Element of the Yolo County 2030 General Plan contains the following policies relevant to geological resources (Yolo County, 2009b).

Policy HS-1.1. *Regulate land development to avoid unreasonable exposure to geologic hazards.*

Policy HS-1.2. *All development and construction proposals shall be reviewed by the County to ensure conformance to applicable building standards.*

Policy HS-1.3. *Require environmental documents prepared in connection with CEQA to address seismic safety issues and to provide adequate mitigation for existing and potential hazards identified.*

Professional Standards

The Society of Vertebrate Paleontology (SVP) is an international professional organization of vertebrate paleontologists. It has issued guidelines for adequate assessment and mitigation of adverse impacts to paleontological resources. Fossils must be identifiable and must be at least 5,000 years old to be considered significant paleontological resources.

5.7.2 Environmental Impacts and Mitigation Measures

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

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

NO IMPACT. The proposed Project is not crossed by any known faults and is not in an Alquist-Priolo Earthquake Fault Zone (CGS, 2021). The closest Alquist-Priolo Earthquake Hazard Zones are along portions of the Hunting Creek–Berryessa fault system and the Green Valley fault zone and are located approximately 30 miles, northwest and southwest of the Project site, respectively.

ii) Strong seismic ground shaking?

LESS THAN SIGNIFICANT IMPACT. Potential earthquake damage on the Project site would likely occur as a result of ground shaking and seismically related structural failures. The degree of this type of hazard is controlled by the nature of the underlying soil and rock materials, the magnitude of and distance from the quake, the duration of ground motion, and the physical characteristics of the affected structure. Seismically induced shaking would be expected to occur during a major event, but damage would be no more severe in the Project area than elsewhere in the region. There are two faults capable of producing large local earthquakes in the vicinity of Project site, the Hunting Creek–Berryessa fault system and the Green Valley fault, and numerous regional faults in the Coast Ranges and Bay Area, including the San Andreas and Hayward fault zones, capable of producing large regional earthquakes. Design and construction of the solar Project would comply with all applicable Uniform Building Code (UBC)/CBC seismic design requirements and would be engineered to withstand damage due to the ground shaking that may occur in this area. Final Project design would incorporate any design recommendations from a site-specific geotechnical investigation. Compliance with CBC requirements and recommended geotechnical and engineering design would reduce potential impacts related to damage due to seismic ground shaking and ensure that impacts would be less than significant to people who may happen to be in or around the system during a seismic event.

iii) Seismic-related ground failure, including liquefaction?

LESS THAN SIGNIFICANT IMPACT. The Project site is flat and is not likely to experience seismically induced ground failures. No map of liquefaction hazard has been prepared on a Countywide basis, nor has the CGS evaluated the proposed Project area for liquefaction. The site is underlain by unconsolidated Holocene sediments with groundwater levels that range from 50 to 80 feet in the last 5 years and could potentially experience liquefaction in the event of a large regional earthquake (CDWR, 2021). The Geotechnical Engineering Study conducted for the Project site indicates that the soils underlying the Project site consist

primarily of stiff to hard sandy silt and loose to dense silty sand and concludes that liquefaction potential at the site is low (Geo-Engineering Solutions, Inc., 2020).

The proposed Project requires little grading and minimal placement of permanent foundations such as concrete footings for the BESS containers. Design and construction of the Project would comply with all applicable CBC requirements, and final Project design would incorporate all design recommendations from the site-specific geotechnical investigation as required for construction permitting. Therefore, potential impacts would be less than significant.

iv) Landslides?

NO IMPACT. The CGS has not evaluated the proposed Project area for landslides. However, the Proposed Project location is flat and has a very low risk for landslides. Construction of the Project would not create a risk to people or structures from potential landslides; there would be no impact.

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

LESS THAN SIGNIFICANT IMPACT. Construction activities associated with the Project include surface smoothing and minimal grading. Disturbance of soils cold result in water or wind erosion. The soils at the Project site have been identified as moderately susceptible to wind and water erosion (NRCS, 2021). The design and construction of the Project would be subject to construction-related stormwater permit requirements under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (State General Permit). The State General Permit requires the preparation of a SWPPP, which would include BMPs for stormwater quality control, including soil stabilization practices, sediment control practices, and wind erosion control practices. Therefore, the impact related to soil erosion would be less than significant.

c. Would the project be located on geologic units 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?

LESS THAN SIGNIFICANT IMPACT. The Project is not located in an area of unstable geologic materials. Furthermore, the Project is not expected to significantly affect the stability of the underlying materials, which could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The geotechnical study provides site-specific recommendations regarding suitability and geotechnical concerns relative to the proposed structural design. The Project would be designed and constructed in accordance with the CBC and geotechnical recommendations. Therefore, construction, operation, and maintenance of the Project would not create a significant risk to people or structures from an unstable geologic unit or unstable soil.

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?

LESS THAN SIGNIFICANT IMPACT. The review of the NRCS Web Soil Survey revealed two soils within the Project disturbance area: Myers clay and Rincon silty clay loam. The Meyer clay has high to very high expansion potential and the Rincon silty loam, which underlies most of the Project site, has moderate expansion potential (NRCS, 2021). Limited soil testing for the Geotechnical Engineering Study indicates moderate expansion potential (Geo-Engineering Solutions, Inc., 2020). As recommended in the Geotechnical Engineering Study, the upper 2 feet of drilled piers should be neglected during foundation design. Additionally, as part of the building permit process, the Project would be required to be constructed in accordance with

CBC requirements, and recommendations of the site-specific geotechnical investigation, reducing impacts related to expansive soils to less than significant.

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

NO IMPACT. There are no sewers or onsite wastewater treatment systems (OWTS) installed or built on the Project site. Additionally, because operations and maintenance workers will not be present on a daily basis, there is no plan or need for sewer or OWTS. Therefore, there are no expected impacts.

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

LESS THAN SIGNIFICANT IMPACT. The Project site is underlain by disturbed Holocene alluvium. A paleontological records search was conducted for the site which indicated that there are no paleontological localities or resources identified at or near the Project site and the closest identified site is located within the Pliocene Tehama Formation approximately 3 miles from the site (Holroyd, 2021). Because the sediments of the site are of Holocene age, have been disturbed by agricultural activities, and no excavations are expected to reach Pleistocene sediments, impacts to paleontological resources are expected to be minimal. Impacts to paleontological resources would be less than significant.

Geology and Soils Impact Conclusions

There are no known geological conditions that would result in substantial adverse effects including the risk of loss, injury, or death involving strong seismic ground shaking, liquefaction, expansion of soils, or other unstable soil conditions. In addition, the site-specific geotechnical investigation completed in August of 2020 provides the design engineers with site-specific geotechnical information that would allow proper design so that the facility would be able to withstand any such adverse conditions. Significant paleontological resources are not expected to occur in the Project area; therefore, adverse effects due to damage to paleontological resources are unlikely. The potential for any soil erosion would be addressed through preparation of a Construction SWPPP, which would also be applicable to decommissioning activities. The impacts to Geology and Soils would be less than significant.

5.8 Greenhouse Gas Emissions

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.8.1 Setting

The global climate depends on the presence of naturally occurring greenhouse gas (GHG) to provide what is commonly known as the "greenhouse effect" that allows heat radiated from the Earth's surface to warm the atmosphere. The greenhouse effect is driven mainly by water vapor, aerosols, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and other constituents. Globally, the presence of GHG affects temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity. Human activity directly contributes to emissions of the anthropogenic GHGs, including CO_2, primarily from the use of fossil fuels as a source of energy.

Effects of GHG Emissions. Changing temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity provide indicators and evidence of the effects of climate change. From 1950 onward, relatively comprehensive data sets of observations are available. Research by California's Office of Environmental Health Hazard Assessment (OEHHA) documents climate change indicators by categorizing the effects as: changes in California's climate; impacts to physical systems including oceans, lakes, rivers, and snowpack; and impacts to biological systems including humans, vegetation, and wildlife. The primary observed changes in California's climate include increased annual average air temperatures, more-frequent extremely hot days and nights, and increased severity of drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns show decreasing snowmelt runoff, shrinking glaciers, and rising sea levels. Impacts to terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply are occurring in conjunction with the potential to impact human well-being (OEHHA, 2018).

California GHG Emissions Trends. California first formalized a strategy to achieve GHG reductions in 2008, when California produced approximately 484 million metric tons of CO_2 equivalent (MMTCO2e) according to the official Air Resources Board (ARB) inventory (ARB, 2020). The State's economy-wide emissions have been declining in recent years. California's sources of GHG emitted approximately 425 MMTCO2e in 2018 (ARB, 2020), less than 10 percent of the U.S. GHG emissions total for 2019 of 6,577 MMTCO2e.

Regulatory Background

State

California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)]. The California Global Warming Solutions Act of 2006 (AB 32) required that California's GHG emissions be reduced to 1990 levels by 2020. The ARB Climate Change Scoping Plan, initially approved December 2008 (ARB, 2008) and most-recently updated by ARB in December 2017, provides the framework for achieving California's goals (ARB, 2017).

In passing AB 32, the California Legislature found that:

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

Other major Executive Orders, legislation, and regulations adopted for the purpose of reducing GHG emissions support the implementation of AB 32 and California's climate goals, as described below.

California Governor's Executive Orders on GHG Emissions. In September 2018, Executive Order B-55-18 established a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The ARB was directed to develop the framework for implementing the goal of carbon neutrality. Executive Order B-30-15 (April 2015) established a California GHG reduction target of 40 percent below 1990 levels by 2030. One purpose of the 2030 target is to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 (Executive Order S-3-05, June 2005). Senate Bill 32 (SB 32) of 2016 codified the GHG emissions target to 40 percent below the 1990 level by 2030.

California Renewables Portfolio Standard (RPS) Program. Electric utilities in California must procure a minimum quantity of the sales from eligible renewable energy resources as specified by RPS requirements. To integrate renewable generators on the grid, optimize the delivery of growing amounts of renewable energy production, and facilitate achieving the targeted GHG reductions, the California legislature has also authorized energy agencies to establish energy storage procurement targets.

The Clean Energy and Pollution Reduction Act of 2015 [Senate Bill 350 (SB 350)] established California's state policy objectives on long-term energy planning and procurement as signed into law on October 7, 2015. The 100 Percent Clean Energy Act of 2018 [Senate Bill 100 (SB 100)] revised the RPS targets to establish the policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

Local

Yolo County General Plan. The 2030 Yolo Countywide General Plan and accompanying Climate Action Plan (CAP) include numerous policies and measures to reduce fossil fuel reliance and greenhouse gas emissions through County Actions to promote use of solar photovoltaic systems for existing and new electricity supplies, and also to pursue an electricity supply from renewable resources in excess of the RPS. (Yolo County, 2009 and 2011). The Final Environmental Impact Report (EIR) for the 2030 Yolo Countywide General Plan concluded that while the severity of GHG and climate change impacts related to planned urban growth could be reduced by some policies and some available mitigation measures, the overall impact could not be reduced to a less than significant level. The General Plan EIR identified GHG and global climate change as significant and unavoidable impacts that would result from implementation of the General Plan due to associated increases in GHG emissions.

The General Plan Amendment #2011-02 implements the Climate Action Plan and establishes the policy that GHG emissions from projects that are: consistent with the General Plan, fall within the assumptions of the General Plan EIR, and consistent with the CAP, may be found to cause less than significant impacts.

Yolo County Climate Action Plan. The Yolo County CAP identifies strategies to reduce GHG emissions and combat climate change across five sectors including: Agriculture, Transportation and Land Use, Energy, Solid Waste and Wastewater, and Adaptation. To reduce the GHG emissions related to electricity use, the CAP calls for pursuing a community choice aggregation (CCA) program to ensure that the renewable energy and zero-carbon content of the electricity supplied to customers meets the goals of the CAP as well as mandatory RPS targets.

5.8.2 Environmental Impacts and Mitigation Measures

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

LESS THAN SIGNIFICANT IMPACT. The proposed Project would cause GHG emissions due to construction activities and during operation. Operation of the solar generating station would produce electricity from renewable energy resources that would displace the need to produce electricity from conventional (fossil-fueled) resources. The GHG emissions caused by development activities including construction and operations with maintenance and inspection would occur in conjunction with the indirect GHG emissions reductions due to the electricity produced from renewable energy.

Construction, operations, and eventual decommissioning activities would cause GHG emissions as a result of fossil-fuel combustion in the engines of construction equipment and the vehicles carrying construction materials and workers to and from the site. Diesel fuel or gasoline is used in mobilizing the heavy-duty construction equipment, site development and preparation, facility construction, and roadway construction, and eventual decommissioning. Total GHG emissions over the duration of construction would amount to approximately 150 MTCO2e. Upon completing construction, the facility would be operated with occasional O&M activities of the PV equipment such as site security and other upkeep activities. The operations and PV maintenance would be performed quarterly by two to four employees in quarterly intervals, and therefore, contribute a minor amount to annually recurring emissions.

Operation would provide 2 MWac of renewable generating capacity. The renewable power produced by the proposed Project would displace power produced by carbon-based fuels that would otherwise be used to meet electricity demand. The power displaced would be the incremental power provided by generators elsewhere on the grid, typically from natural gas power plants. Because the energy produced by the Bayer Woodland Solar Farm and energy storage system would be used by the existing Bayer Crop Science facility, the Project's renewable energy supply would provide indirect GHG emissions reductions by avoiding the need to procure energy from conventional sources.[1] The overall effect of the proposed Project would be to reduce GHG emissions, and therefore, this impact would be less than significant.

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

LESS THAN SIGNIFICANT IMPACT. The proposed Project would produce electricity in a manner that improves California's supply of renewable energy and contributes to achieving statewide renewable energy goals. Electricity from the proposed solar generating facility would be used to serve the needs of the existing Bayer Crop Science facility and would not conflict with California's RPS. The Project would reduce the over-

[1] Production of electricity for a solar facility of 2 MW capacity, with a 20 percent capacity factor, would be approximately 3,504 MWh annually (8,760 hours x 2 MW x 0.2 cap factor). The emissions intensity of the electricity supply that is displaced varies over time but is likely to exceed 0.19 MTCO2e/MWh (Tables 2 and 6 of *2018 Integrated Energy Policy Report Update*; CEC, 2018); this results in over 650 MTCO2e displaced annually.

all electrical demand of the existing Bayer facility, and excess electricity not used on-site would be credited to Bayer through a Net Energy Metering (NEM) Program with Pacific Gas & Electric (PG&E). By increasing the supply of renewable energy, the Project would be consistent with the Yolo County CAP.

The renewable energy targets in the RPS support California's overall approach to achieving GHG reduction goals. The California Global Warming Solutions Act of 2006 (AB 32) and SB 32 of 2016 codified the GHG emissions target to 40 percent below the 1990 level by 2030. Subsequently, California's Clean Energy and Pollution Reduction Act of 2015 (SB 350), SB 350 set ambitious 2030 targets for energy efficiency and renewable electricity, among other actions aimed at reducing GHG emissions across the energy and transportation sectors. The current RPS was signed into law in September 2018 with SB 100, which established the goals of 50 percent renewable energy resources by 2026 and 60 percent renewable energy resources by 2030. SB 100 also sets a target for California to achieve a GHG-free energy supply by December 31, 2045.

The electricity produced by the proposed Project would contribute to achieving ongoing GHG reductions in California's power supply. Other activities related to construction/decommissioning and operation of the proposed Project would either be exempt from, or would be required to comply with, ARB rules and regulations to reduce GHG emissions. Because the proposed Project would use renewable energy resources to produce electricity, it would be consistent with, and would not conflict with, California's GHG emissions reduction targets and the Climate Change Scoping Plan that relies on achieving the RPS targets. Therefore, impacts would be less than significant.

Greenhouse Gas Emissions Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.9 Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §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 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Significance criteria established by CEQA Guidelines, Appendix G.

5.9.1 Setting

This section addresses issues related to environmental hazards and hazardous materials in the existing conditions. Environmental hazards include accidental spills of hazardous materials, the presence of existing subsurface contamination, the risk of wildfire, and aircraft safety. Hazardous materials include fuel, oil, and lubricants. If encountered, contaminated soil can pose a health and safety threat to workers or the public.

Existing and past land use activities are commonly used as indicators of sites or areas where hazardous material storage and use may have occurred or where potential environmental contamination may exist. The Project site consists of disturbed land historically used for agricultural production; the site recently produced tomatoes (2016 and 2017), followed by 3 years of summer fallow, and a winter cover crop of wheat. Current and former agricultural properties commonly have herbicide, pesticide, and/or fumigant soil contamination. The land is currently being fallowed as a result of the infestation of fusarium, a fungus that negatively impacts the cultivation of tomatoes and peppers.

Electromagnetic Fields

Electric voltage and electric current from transmission lines create electromagnetic fields (EMF). Possible health effects associated with exposure to EMF have been the subject of scientific investigation since the 1970s, and there continues to be public concern about the health effects of EMF exposure. However, EMF is not addressed here as an environmental impact under CEQA. The CPUC has repeatedly

recognized that EMF is not an environmental impact to be analyzed in the context of CEQA because (1) there is no agreement among scientists that EMF creates a potential health risk, and (2) there are no defined or adopted CEQA standards for defining health risks from EMF.

Regulatory Background

Hazardous substances are defined by federal and State regulations that aim to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 101(14), and also in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition:

> *A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed.*

For this analysis, soil that is excavated from a site containing hazardous materials would be considered a hazardous waste if it exceeded specific CCR Title 22 criteria or criteria defined in CERCLA or other relevant federal regulations. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; it may also be required if certain other activities occur. Even if soils or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Federal. The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. Environmental Protection Agency (USEPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

CERCLA, including the Superfund program, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

State of California. The California Environmental Protection Agency (Cal/EPA) was created in 1991, which unified California's environmental authority in a single cabinet-level agency and brought the Air Resources Board (ARB), State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards

(RWQCBs), Integrated Waste Management Board (IWMB), Department of Toxic Substance Control (DTSC), Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality, and economic vitality.

The California Hazardous Waste Control Law (HWCL) is administered by Cal/EPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

5.9.2 Environmental Impacts and Mitigation Measures

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. Construction and decommissioning, and maintenance of the proposed Project would include the use and transport of hazardous materials in the form of fuels and lubricants required to operate construction vehicles and equipment. In addition to these hazardous materials, it is anticipated that small quantities of additional common hazardous materials would be used on-site during construction, decommissioning, and maintenance, including antifreeze and used coolant, latex and oil-based paint, paint thinners and other solvents, and cleaning products. Any stored materials would be required to comply with federal, state, and Yolo County Environmental Health regulations. Minor spills or releases of hazardous materials could occur due to accidental handling and/or storage during construction or decommissioning activities at the site. Potential impacts related to minor spills would be largely avoided by training construction personnel in the handling and storage of hazardous materials in compliance with California Occupational Safety and Hazards Administration (OSHA) standards, in addition to compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements; the Project would be required to obtain an NPDES permit from the Regional Water Quality Control Board and develop a Storm Water Pollution Prevention Plan (SWPPP). The Project, as proposed, would comply with OSHA laws and guidelines to ensure personnel health and safety. Furthermore, safety training would be conducted prior to construction to educate personnel of potential hazardous material protocols and safety issues.

When operational, the generation of solar electricity would not use or emit any large amounts of hazardous materials. The applicant is proposing to use a Tesla battery energy storage system (BESS), which consists of four Tesla Powerpack Units and one Tesla Powerpack Inverter. Every Powerpack contains 16 individual battery pods, each with an isolated DC-DC converter, a thermal control system, and hundreds of sensors that monitor and report on cell-level performance. The BESS would be housed in small, sealed containers on a single concrete pad approximately 25 feet by 15 feet located on the Bayer Crop Science facility property.

The Tesla Powerpack uses lithium-ion batteries, which are stored in temperature regulated containers, contain coolant, refrigerant, and cell electrolyte. Potential for coolant, refrigerant, and cell electrolyte leak would be low and would result only from mechanical damage or crushing due to outside forces. The rigid exterior of each cell provides an added degree of protection, making it very difficult to mechanically damage the cells—further reducing the likelihood of a leak or spill. The battery containers would include hazardous waste containment in the case of a spill. All operations and maintenance personnel and emergency response departments would be trained on the manufacturer's emergency response guide, in the event that a release does occur, and shall be reflected in the Project's conditions of approval.

Compliance with best management practices (BMPs), permit requirements, building code requirements, and all applicable rules and regulations pertaining to hazardous materials would ensure the proposed Project would have less than significant impacts pertaining to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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?

LESS THAN SIGNIFICANT IMPACT. Accidental spills of hazardous materials could occur due to improper handling and/or storage practices during construction activities. However, as discussed previously under checklist question a., compliance with BMPs, permit requirements, and all applicable rules and regulations pertaining to hazardous materials would ensure the proposed Project would have less than significant impacts pertaining to potential impact from the accidental release of hazardous materials into the environment. Additionally, hazardous materials are not expected to be used or stored in large amounts that would create a significant hazard to the public or environment.

The proposed Project would include on-site battery storage infrastructure. The BESS would be housed in temperature-regulated containers set on concrete pads located on the site. The BESS would be located on the existing Bayer Crop Science facility, adjacent to the Project site, farther back from residential receptors. Battery containers would include hazardous waste containment in the case of a spill. Additionally, construction of foundations/concrete footings and battery containers would conform to all applicable building codes and regulations pertaining to such facilities, ensuring that the proposed Project would have less than significant impacts pertaining to creating a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

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?

LESS THAN SIGNIFICANT IMPACT. The closest public school (by line-of-sight) is Rhonda Maxwell Elementary School, which is located 0.60 miles northeast of the nearest Project boundary. TL Whitehead Elementary School is located 0.75 miles southeast of the nearest Project boundary. Therefore, there would be no

impact to an existing or proposed school resulting from an accidental release. As discussed above under checklist question a., compliance with BMPs, permit requirements, and all applicable rules and regulations pertaining to hazardous materials would ensure the proposed Project would have less than significant impacts pertaining to accidental release of hazardous materials into the environment that could affect the nearest schools.

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

NO IMPACT. The proposed Project is not located on a site that is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (Cal/DTSC, 2021). Additionally, the Project is not located on a site that is included on a list of hazardous materials sites compiled by the Yolo County Environmental Health Division–Hazardous Waste Site files pursuant to Government Code 65962.5. No impacts would occur related to the Project being located on, or disrupting, a registered hazardous material site.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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 nearest airport to the Project site is Watts Woodland Airport, located 3 miles directly west of the nearest Project boundary. The Watts Woodland Airport does not have a land use plan. Based on FAA (Federal Aviation Administration) guidelines (Advisory Circular 70/7460-1) to reduce potential hazards to air navigation, the Project does not include any facilities that would require FAA review for possible impacts to aviation safety. Therefore, there would be no potential safety impacts related to an airport land use plan or airport within 3 miles of the Project site or hazard for people residing or working in the Project area.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT IMPACT. State Route 16, adjacent to the proposed solar facility, is a known Yolo County Office of Emergency Services evacuation route. During construction and decommissioning, some oversize truck trips are expected to deliver large pieces of construction equipment and materials to the site or remove materials from the site. These activities may include brief temporary delays on local roads providing access to the site. However, no roadway or lane closures are expected during construction and decommissioning. In the event deliveries require any disruption to public roadways, flagmen would be present to ensure traffic flow, including emergency vehicle flow through the area, evacuations, and access to any nearby residences or areas would not be impaired. Once operational, the proposed Project would have no impact on access or movement to emergency service providers or evacuations. Impacts would be less than significant.

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 is located on once irrigated farmland and surrounded by field crops, orchards, residences, light industrial use, and Bayer's Crop Science facility. The Project site is not located in the arid hilly areas of the far western County where significant fire hazards exist. The proposed Project site is not located on forest or wilderness land, and the Project would not involve the construction or operation of habitable structures in wildland areas or promote development in wildland areas.

According to the Department of Forestry and Fire Protection (CAL FIRE) Yolo County Fire Hazard Severity Zone Map, the Project site is located within a "Local Responsibility Area – Unincorporated" with respect to fire protection (CAL FIRE, 2007). Therefore, there would be a less than significant impact.

Hazards and Hazardous Materials Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.10 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Significance criteria established by CEQA Guidelines, Appendix G.

5.10.1 Setting

Surface Water

The major watersheds and surface water features in Yolo County include Cache Creek, Putah Creek, the Sacramento River, and the Yolo Bypass. The Project is surrounded by several surface water features including Magnolia Canal to the northwest (1.8 miles), Cache Creek to the north (2.6 miles), East Adams Canal to the northwest (2.7 miles) and Willow Slough to the southwest (2.6 miles). The Project site is located within the Upper Cache Creek watershed (SGMA, 2021). The Upper Cache Creek watershed is a total of 1,300 square miles and encompasses portions of Lake, Colusa, and Yolo Counties (2021, SRWP). An additional extensive network of sloughs, irrigation canals, and drainage ditches are located throughout Yolo County. Yolo County does not have any natural lakes.

Groundwater

The Project site is located within the Yolo Subbasin of the larger Sacramento Valley groundwater basin. The Yolo Subbasin boundaries approximately mirror the Yolo County boundaries. The Subbasin is approximately 27 miles wide from west to east and up to 45 miles long from north to south (SGMA, 2021). The Subbasin is bounded on the east by the Sacramento River and the west by the Coast Ranges. Putah Creek forms the southern boundary from the southwestern corner of the Subbasin to the City of Davis, at which point the boundary follows the Yolo County line to the south (GEI Consultants, 2022).

The Subbasin's northern boundary follows the Yolo County boundary. The Yolo Subbasin Groundwater Agency (YSGA), a group of member agencies and affiliated parties, acts as the Groundwater Sustainability Agency for Yolo Subbasin under the Sustainable Groundwater Management Act (SGMA) (GEI Consultants, 2022). The Yolo Subbasin has been classified by SGMA as a "medium priority" basin and YSGA is in the final approval stages of its Groundwater Sustainability Plan for the Subbasin (GEI Consultants, 2022).

Domestic and agricultural land uses rely on groundwater, in addition to surface water, to supply their water needs. Wells in the County are increasingly tapping deeper aquifers, contributing to issues of subsidence and contamination. Groundwater levels in the Yolo Subbasin vary significantly seasonally and show large declines during periods of drought but seem to fully recover after periods of normal precipitation (GEI Consultants, 2022). The primary source of groundwater recharge is applied irrigation water and rainfall. Recharge occurs naturally and through the release of stored water from the Indian Valley Reservoir into Cache Creek during low flows.

Groundwater pollution potential is evaluated on the DRASTIC index range; this method is based on factors such as **D**epth to water, net **R**echarge, **A**quifer media, **S**oil media, **T**opography, **I**mpact vadose zone, and hydraulic **C**onductivity. The proposed Project location has a medium groundwater pollution potential of 140 to 159 (Yolo County, 2009).

The California Resource Lab at the University of California, Davis developed a Soil Agricultural Groundwater Banking Index (SAGBI) for groundwater recharge on agricultural land. The scale ranges from 0 (poor) to 100 (excellent) and is based on five major factors: deep percolation, root zone residence time, topography, chemical limitations, and soil surface condition. The site conditions of the Project area vary from the northern to the southern boundary of the 39-acre parcel. From the north to the south, the area of development of the Project has the following ratings: of 40 – Moderately Poor and 75 – Good (UC Davis, 2021).

Water Quality

The quality of surface water in Yolo County varies and is likely to be diminished after major storms. Chemicals such as boron, diazinon, mercury, and unknown toxics are pollutants found in Yolo County waterways. Several of the rivers and sloughs in Yolo County are listed as impaired water bodies under Clean Water Act Section 303(d) and have Total Maximum Daily Loads (TMDLs) for a variety of contaminants. In October 2005, the Central Valley RWQCB adopted a TMDL for mercury in Cache Creek (and tributaries Bear Creek, Sulphur Creek, and Harley Gulch) (SRWP, 2021).

Water quality constituents that have the potential to impact the groundwater quality of the Yolo Subbasin are arsenic, hexavalent chromium, nitrate, chloride, sodium, boron, selenium, conductivity, and total dissolved solids (TDS). The Cache Creek watershed has elevated levels of mercury. Cache Creek is also listed on the Clean Water Act Section 303(d) list as impaired for unknown toxicity (SRWP, 2021).

Flooding

Drainage facilities in the unincorporated County are limited, often resulting in localized flooding. Runoff from agricultural land often drains to on-site ditches where water is conveyed to existing roadside ditches. Much of Yolo County is a natural floodplain.

The proposed Project site will be primarily located in Flood Zone X (Yolo County, 2021). Flood Zone X represents an area of minimal flood hazard, which is the area outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood (FEMA, 2020).

Historic Use

Table 5.10-1 shows the crops planted at the site and the required water for those crops over the past 5 years. The parcel was fallowed of summer crops for the past 3 years due to a fusarium infestation in the soil. Based on the information in the table, the average water use over that 5-year period was 1.6 acre-feet per year (AFY) for the entire parcel. However, during summer crop years (2016 and 2017), an estimated 2.5 AFY was used for crop irrigation.

Table 5.10-1 Water and Crop History of the 39-acre Parcel

Year	Crop Type	Required Water (AFY)
2016	Tomatoes	2.5
2017	Tomatoes	2.5
2018	Summer Fallow and Winter Wheat	1*
2019	Summer Fallow and Winter Wheat	1*
2020	Summer Fallow and Winter Wheat	1*

*Estimated water use
Source: Bayer Woodland Solar Farm, 2021

Regulatory Background

Federal

Clean Water Act and California's Porter-Cologne Water Quality Control Act. The Clean Water Act (CWA; 33 U.S.C. Section 1251 *et seq*.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is delegated to, and administered by, California's nine Regional Water Quality Control Boards (RWQCB). In addition, the State Water Resources Control Board (SWRCB) regulates the NPDES stormwater program. The proposed Project is under the jurisdiction of the Central Valley Regional Water Quality Control Board and the SWRCB.

Projects that disturb one or more acres are required to obtain NPDES coverage under the California General Permit for Discharges of Storm Water Associated with Construction Activity. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP describes Best Management Practices (BMPs) the discharger will use to protect stormwater runoff. The SWPPP must contain a visual monitoring program and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs.

National Flood Insurance Act/Flood Disaster Protection Act. The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws led to mapping of regulatory floodplains and to local management of floodplain areas according to federal guidelines that include prohibiting or restricting development in flood hazard zones

State/Local

State Sustainable Groundwater Management Act

The 2014 Sustainable Groundwater Management Act requires local public agencies and Groundwater Sustainability Agencies (GSAs) in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs. GSPs are detailed road maps for how groundwater basins will be managed to reach long-term sustainability. The Yolo Subbasin Groundwater Agency Board adopted Resolution 2018-1 in March 2018, formalizing the initiation of developing the

Yolo Subbasin Groundwater Sustainability Plan. The development of the Yolo Subbasin GSP is in its final stages, awaiting approval (GEI Consultants, 2022).

5.10.2 Environmental Impacts and Mitigation Measures

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

LESS THAN SIGNIFICANT IMPACT. Construction, operation, and decommissioning of the proposed Project could risk the violation of water quality standards or waste discharge requirements from accidental release or spill of hazardous materials. Accelerated erosion and sedimentation could also occur within the Project site.

Construction of the proposed Project would require site preparation, including clearing and creation of underground electrical installation, photovoltaic (PV) racks and solar panel installation, and BESS construction. These activities could loosen the soil and lead to accelerated erosion and sedimentation during a storm event. Most excavation activities would be less than 8 feet deep. However, the potential for construction of the proposed Project to result in increased erosion and sedimentation is minimal due to the existing flat topography of the proposed Project area and planting of the pollinator substrate once construction is completed. Additionally, minimal quantities of hazardous wastes will be generated over the course of construction and will be disposed of at a properly permitted and licensed treatment and/or disposal facility.

Construction activities, and to a lesser extent decommissioning activities, would include the use of heavy machinery and equipment such as trenchers, backhoes, excavators, haul vehicles, compaction equipment, and water trucks. The use of this construction equipment could result in the accidental release or spill of hazardous materials, including hydraulic oil, fuel, grease, lubricants, coolant, and other petroleum-based products. If leaked or spilled, these hazardous materials could contaminate a nearby waterbody either directly or indirectly through subsequent transport by stormwater runoff. The potential for the proposed Project to result in contamination of a nearby waterbody by hazardous materials is unlikely due to the short construction period of 3 months, the minimal amount of construction equipment and associated hazardous materials to be used in construction of the proposed Project, the generally flat topography, and arid climate of the region. During normal operations, no hazardous materials would be stored onsite. Decommissioning of the site would require similar equipment; however, the site will be fully reclaimed during decommissioning.

The proposed Project would disturb approximately 11 acres in total and appropriate erosion control measures (including implementing a SWPPP) would be used throughout the decommissioning process to comply with U.S. Environmental Protection Agency (USEPA) requirements. The Applicant will comply with all applicable rules and regulations pertaining to transport, storage, and use of hazardous materials, which, would further reduce the potential for water quality contamination through the accidental release or spill of hazardous materials. Compliance with applicable permits, rules, and regulations would ensure this impact would be less than significant.

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?

DURING CONSTRUCTION AND DECOMMISSIONING, *LESS THAN SIGNIFICANT IMPACT*. The small amount of water, approximately 8,000 gallons or 0.02 acre-feet (AF) per week, that would be required during construction (and perhaps less for decommissioning) of the proposed Project, would be sourced from the onsite well.

Water would primarily be used for dust suppression. Construction water use would be temporary, lasting approximately 3 months. It is not anticipated that the temporary and small amount of water used would substantially deplete groundwater supplies or result in a lowering of the local groundwater table level. This impact would be less than significant.

DURING OPERATIONS, *LESS THAN SIGNIFICANT IMPACT*. Once operational, it is estimated 240,000 gallons (0.74 acre-feet [AF]) of water would be used annually to wash the panels. In addition, it is estimated that another 550,000 gallons (1.7 AF) of water would be needed annually to irrigate the plant substrate during the first few years of the project—for a total of 790,000 gallons (2.44 AFY) during the first few years of operation. Once the plant substrate is established, it would not require irrigation, and water would be used only for panel washing.

Anticipated water use would be slightly less than the past usage of 2.5 AFY for the Project area. Once the plant substrate is established, annual water use would reduce to 0.74 AF, approximately 30% of historical use of the Project area. Therefore, it is unlikely that this solar farm would decrease groundwater supplies. While the Project would slightly increase impermeable surfaces within the site (primarily limited to foundations for ancillary equipment), construction and operation of the proposed Project would not significantly interfere with groundwater recharge. This impact would be less than significant.

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;

LESS THAN SIGNIFICANT IMPACT. The proposed Project is located in a flat agricultural area that has been used for producing various row crops. The ground beneath the solar mounts would remain permeable and the Project is not expected to cause additional runoff. The final engineering design for the Project would include measures to reduce soil erosion around the concrete pads and solar arrays. The Project would not modify any drainage patterns or change absorption rates, or the rate and amount of surface runoff. Any earthwork would enable water to flow in the direction of the natural drainage and would be designed to prevent ponding and erosion that could cause damage to each solar module footing. The minor earthwork as part of construction or decommissioning activities would not substantially alter the existing drainage pattern of the site or area and would not impede water flow. Erosion control measures would be implemented for exposed surfaces potentially subject to soil erosion. BMPs and adherence with all applicable permits and regulations to reduce erosion and transport of soil particles or turbid water into the drainage course flowing from the site would be employed. All conditions of existing water quality regulatory agency permits would be adhered to as well. Impacts related to erosion or siltation would be less than significant.

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

LESS THAN SIGNIFICANT IMPACT. As stated above under Items a. and c.(i), minor earthwork and grading may be required as part of construction and decommissioning activities. However, the minor grading would not result in the substantial increase in the rate or amount of surface runoff that would result in flooding on- or off-site; therefore, any impacts would be less than significant.

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

LESS THAN SIGNIFICANT IMPACT. As stated above under Items c.(i) and c.(ii), minor grading may be required as part of construction and decommissioning activities. However, the minor grading would not create or contribute runoff water, leading to the exceedance of the capacity of existing or planned stormwater drainage systems. In addition, the minor grading would not lead to an additional source of polluted runoff. Overall, impacts would be less than significant.

(iv) impede or redirect flood flows?

LESS THAN SIGNIFICANT IMPACT. The Project site as well as the adjacent parcel to the west are located within Flood Hazard Zone X, a zone with minimal flood hazard, which is the area outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood (FEMA, 2020). Project structures in this area consist of the perimeter chain link fence, PV modules, Tesla Powerpacks, and all associated equipment.

Although flooding is unlikely in the Project area, flood waters would be able to flow across the site without substantial impediment. The minor grading planned at the nearly level site would not alter drainage patterns across the site and would not impede water flow. Similarly, decommissioning would result in the site being restored to its pre-project condition. Therefore, impacts would be less than significant.

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

LESS THAN SIGNIFICANT IMPACT. There is no body of water in the area that could produce a tsunami or seiche. As noted above, the Project site is located in Flood Hazard Zone X which is an area with minimal flood hazard. Minimal hazardous materials would be used during project construction, decommissioning, and operation and any hazardous materials onsite would be stored, used, and disposed of per all applicable regulations. Additionally, the batteries would be kept in sealed containers. Therefore, the risk of release of pollutants due to Project inundation is minimal, resulting in less than significant impacts.

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

LESS THAN SIGNIFICANT IMPACT. The minor earthwork that may be required as part of the Project is unlikely to result in runoff. There is a potential for spills of oil, grease, or other water contaminants associated with the use of vehicles, equipment, and materials used in construction/demolition, as well as the potential for increased erosion and sedimentation associated with soil disturbance. As stated above under Item a., Project activities would not include any discharges that could impact water quality. The Project would comply with Clean Water Act NPDES requirements and requirements specified under the required SWPPP to minimize erosion and to quickly contain and clean up any accidental spills or leaks. In addition, the proposed Project must comply with all applicable rules and regulations pertaining to transport, storage, and use of hazardous materials, which would further reduce the potential for water quality contamination through the accidental release or spill of hazardous materials. This would reduce potential water quality impacts that could conflict with applicable water quality plans. As stated above under Item b., the proposed Project would not decrease groundwater supplies or interfere with groundwater recharge. The proposed Project would not conflict with or obstruct any plans or policies pertaining to groundwater management of the area. Impacts to water quality and groundwater plans would be less than significant.

Hydrology and Water Quality Impact Conclusions

Project design features and adherence to design requirements and water quality regulations minimizes potential impacts to hydrology and water quality, reducing them to less than significant impact with no mitigation required.

5.11 Land Use and Planning

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.11.1 Setting

Yolo County has a strong focus on protecting its agricultural and open space reserves, commodities, and identity. The County resists urbanization outside of the cities and unincorporated communities with the goal of maintaining its rural character. While the County has specific priorities for protecting agricultural lands and open spaces, and its characteristics as a rural region, it also strongly encourages solar energy development. The 2030 Countywide General Plan outlines the following strategies for the development vision for growth in the coming years:

1. *Modest managed growth within specified existing unincorporated communities, where accompanied by improvements to existing infrastructure and services, as well as by suitable new infrastructure and services.*
2. *Opportunities for revenue-producing and job-producing agricultural, industrial and commercial growth in limited locations and along key transportation corridors.*
3. *Thresholds that allow for effective and efficient provision of services, consistent with rural values and expectations.*
4. *New emphasis on community and neighborhood design requirements that reflect "smart growth" principles and complement the character of existing developed areas*.

The Project site is primarily located on Assessor's parcel number (APN) 025-470-028. The 39-acre parcel is flat agricultural land located just west of the city of Woodland in Yolo County. State Route (SR) 16 runs along the northern side of the parcel and provides access to the site. The parcel is surrounded by County Road (CR) 20 to the north, CR 98 to the east, CR 24 to the south, and CR 97 to the west (see Figure 4-1). The parcel is designated Agriculture (AG) in the Yolo County General Plan and is zoned Agricultural Intensive (A-N).

Regulatory Background

The following policy is presented in the Yolo County General Plan Conservation and Open Space Element (Yolo County, 2009a):

- Promote GHG emissions reductions by supporting carbon efficient farming methods (e.g., methane capture systems, no-till farming, crop rotation, cover cropping); installation of renewable energy technologies; protection of grasslands, open space, oak woodlands, riparian forest and farmlands from conversion to other uses; and development of energy-efficient structures.

The following relevant goal and policies are presented in the Yolo County General Plan Land Use and Community Character Element (Yolo County, 2009b):

Policy CC-4.1. Reduce dependence upon fossil fuels, extracted underground metals, minerals and other non-renewable resources by:

- Requiring projects to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.
- Encouraging projects to use regenerative energy heating and cooling source alternatives to fossil fuels.
- Encouraging projects to select building materials that require less energy-intensive production methods and long-distance transport, in compliance with Leadership in Energy and Environmental Design (LEED) or equivalent standards.
- Policy CC-4.5. Encourage individual and community-based wind and solar energy systems (micro-grids)

Policy LU-1.1. *Assign the following range of land use designations throughout the County, as presented in detail in Table LU-4 (Land Use Designations) [of the Land Use and Community Character Element]:*

> ***Agriculture (AG)*** *includes the full range of cultivated agriculture, such as row crops, orchards, vineyards, dryland farming, livestock grazing, forest products, horticulture, floriculture, apiaries, confined animal facilities and equestrian facilities. It also includes agricultural industrial uses (e.g., agricultural research, processing and storage; supply; service; crop dusting; agricultural chemical and equipment sales; surface mining; etc.) as well as agricultural commercial uses (e.g., roadside stands, "Yolo Stores," wineries, farm-based tourism (e.g., u-pick, dude ranches, lodging), horseshows, rodeos, crop-based seasonal events, ancillary restaurants and/or stores) serving rural areas. Agriculture also includes farm-worker housing, surface mining, and incidental habitat.*

Goal LU-2. *Preserve farmland and expand opportunities for related business and infrastructure to ensure a strong local agricultural economy.*

Policy LU-2.4. *Vigorously conserve, preserve, and enhance the productivity of the agricultural lands in areas outside of adopted community growth boundaries and outside of city spheres of influence.*

The following relevant goals, objective, and policy are presented in the Yolo County General Plan Public Facilities and Services Element (Yolo County, 2009c):

Policy PF-10.2. Streamline the permitting process for the production of energy alternatives (including but not limited to photovoltaic, solar, wind, biofuels, and biomass), to reduce dependency on fossil fuels.

Goal PF-10. *Sources of Energy. Provide opportunities for the development of energy alternatives.*

Goal PF-11. *Utilities and Communications. Support a flexible network of utility services to sustain state-of-the-art community livability and economic growth.*

The following relevant principle, objective, and goals are presented in the Yolo County General Plan Vision and Principles Element (Yolo County, 2009d):

Principle 9. *Fundamental changes are needed to secure the health, safety, and prosperity of our communities against the potentially adverse effects of climate change*

Objective 9.6. *Expanded capacity and reliance on renewable energy resources such as solar, wind, biomass, and others.*

The Project site is not located within any community growth boundary or city spheres of influence.

Yolo Local Agency Formation Commission (LAFCO)

This commission is "a close partner in the County's agricultural preservation efforts. LAFCO's strong preservation posture, its Agricultural Conservation Policy and mitigation requirements are intended to preserve agricultural lands. These policies and requirements also serve to discourage the premature conversion of prime agricultural lands to urban uses" (Yolo County, 2009b).

Yolo County Medium-Sized Solar Energy Systems Ordinance. The proposed Bayer Woodland Solar Farm Project will be reviewed under Yolo County's Medium-sized Solar Energy Systems Ordinance, which was adopted in 2014 and amended several times, most recently in 2020 (Yolo County, 2020). The ordinance defines a medium-sized solar energy system as "private on-site or utility-scale solar energy conversion system consisting of many ground–mounted solar arrays in rows or roof-panels, and associated control or conversion electronics, occupying more than 2.5 acres and no more than 30 acres of land, and that will be used to produce utility power to on-site uses and/or off-site customers."

As permitted by the Ordinance, medium-sized solar energy systems used to produce on-site electricity may be installed and operated on prime farmland through the issuance of a Minor Use Permit, provided the application meets the Design Standards set forth in Section 8-2.2420.5.

5.11.2 Environmental Impacts and Mitigation Measures

a. Would the project physically divide an established community?

NO IMPACT. The proposed solar Project site is not within an established community. The City of Woodland is located approximately a quarter mile west of the Project Site. There are agriculture and industrial land uses between the Project site and the City of Woodland. There is no direct access from the Project site to Woodland. Therefore, the Project would not divide any established community.

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?

LESS THAN SIGNIFICANT IMPACT. The proposed Project would not conflict with the applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating a land use or related environmental effect. See Section 5.6, Energy, for a list of key State and County energy policies. The development of a solar energy plant is consistent with those policies and promotes GHG emission reductions (see General Plan Principal 9, Objective 9.6; Goals PF-10 and 11; and the Yolo County Climate Action Plan [Yolo County, 2011]). The Project is being proposed on land designated Agriculture (AG) in the General Plan and is consistent with the requirements of the Medium-sized Solar Energy Systems Ordinance discussed previously. In compliance with the Medium-sized Solar Energy Systems Ordinance, the solar panels would be set back at least 50 feet from all property lines.

Land Use and Planning Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.12 Mineral Resources

MINERAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

5.12.1 Setting

The California Department of Conservation (DOC) has prepared two Surface Mining and Reclamation Act (SMARA) Special Reports (#156 and #245) for Yolo County. Special Report 156 evaluated mineral resources within the Sacramento, Cache Creek, Woodland, Davis, and Fairfield areas for Portland Cement Concrete-grade construction aggregate resource potential. Special Report 245 was the first mineral land classification study of concrete aggregate resources in the newly defined Greater Sacramento Area Production-Consumption Region, including Yolo County. All lands within the 6,080-square-mile area were assigned a Mineral Resource Zone (MRZ) classification based on geologic factors alone. Those lands with a previously designated MRZ classification were updated in this report. There are 1,458 acres of MRZ-1; 18,452 acres of MRZ-2; and 8,220 acres of MRZ-3 in Yolo County (Yolo County, 2009).

The Project site, located just west of the City of Woodland within Yolo County, is in an area identified as MRZ-3. As defined in the Yolo County General Plan, Conservation and Open Space Element, MRZ-3 refers to an area containing known mineral deposits that may qualify as mineral resources. Further exploration work within this area could result in the reclassification of specific localities into the MRZ-2 category (Yolo County, 2009). Therefore, the Project site and immediate surrounding area could support significant mineral resources.

Preservation of mineral resources is addressed in the Yolo County General Plan, Conservation and Open Space Element. According to the General Plan, Yolo County has two primary mineral resources, mined aggregate and natural gas. These resources are located throughout the County; there are six aggregate mines and 25 natural gas fields currently in operation in Yolo County (Yolo County, 2009). Yolo County is one of the 28 counties in California that produce gas and oil. Most of the natural gas fields in Yolo County are located along the Yolo Bypass and the Sacramento River, with more fields located in the unincorporated area of Dunnigan Hills and at the foot of the Capay Hills (Yolo County, 2009).

There are approximately 35 natural gas wells within a 3-mile radius of the Project site, most of which fall within two natural gas fields: the Woodland Gas (ABA) and Hurlan Ranch Gas (ABD). None of the gas fields overlap with the Project area. The wells surrounding the Project site are inactive (DOC, 2019). There are four aggregate mines that fall along Cache Creek within a 3-mile radius of the Project site (Table 5.12-1). Half of these mines are active, and half are reclaimed (DOC, 2016). None of the mines overlap with the Project area.

Table 5.12-1. Mines Located Near the Project Site

Mine No.	Mine Name	Type	Estimated Distance from Project Site
91-57-0004	Teichert-Muller (In-Channel)	Aggregate	3 miles NW
91-57-0002	Woodland Plant	Aggregate	2.5 miles NW
91-57-0010	Woodland Facility	Aggregate	2.75 miles NW
91-57-0006	Teichert Schwarzgruber	Aggregate	2.25 miles NW

Source: California Department of Conservation (DOC): Mines Online.

Regulatory Background

Surface Mining and Reclamation Act. SMARA requires that the State Geologist classify land into MRZ or Scientific Zones according to the known or inferred mineral potential of the land.

MRZs are defined as the following (DOC, 2000):

> *MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.*
>
> *MRZ-2: Areas where adequate information indicates that mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.*
>
> *MRZ-3a: Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRZ-2a or MRZ-2b categories.*
>
> *MRZ-3b: Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits.*
>
> *MRZ-4: Areas where available information is inadequate for assignment to any other MRZ category.*

Yolo County General Plan

The following policy is presented in the Yolo County General Plan, Conservation and Open Space Element (Yolo County, 2009):

Policy CO-3.1. *Encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, water, wildlife, agriculture, aesthetics, flood control, and other environmental factors.*

5.12.2 Environmental Impacts and Mitigation Measures

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 classified as MRZ-3. Therefore, no known significant mineral resources are present on the site or the immediate surrounding area. The Project would not result in the loss or avail-

ability of a known mineral resource. Additionally, the Project would have low-impact construction, decommissioning, and operation procedures, with no mineral extraction and would not result in the loss or availability of known resources.

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

NO IMPACT. The Project site is not in or near a mineral resource recovery site identified in a local plan. The nearest local area plan is the Cache Creek Resources Management Plan (CCRMP), adopted by the Yolo County General Plan (Yolo County, 2009). The Project lies to the east of the area included in the CCRMP. Additionally, no gas fields or mines are located within the Project area. Therefore, the Project would not result in the loss of availability of a locally important mineral resource recovery site.

Mineral Resources Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.13 Noise

NOISE **Would the project result in:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

5.13.1 Setting

Existing Conditions

Community Noise. To describe environmental noise and to assess project impacts on areas that are sensitive to community noise, a measurement scale that simulates human perception is used. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. Decibels are logarithmic units that can be used to conveniently compare wide ranges of sound intensities.

Community noise levels can be highly variable from day to day as well as between day and night. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq) or by an average level occurring over a 24-hour day-night period (Ldn). The Leq, or equivalent sound level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually one hour. The L50, is the median noise level that is exceeded 50 percent of the time during any measuring interval. The Ldn, or day-night average sound level, is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to nighttime sounds occurring between 10:00 p.m. and 7:00 a.m. Community Noise Equivalent Level (CNEL) is another metric that is the average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. To easily estimate the day-night level caused by any noise source emitting steadily and continuously over 24-hours, the Ldn is 6.4 dBA higher than the source's Leq. For example, if the expected continuous noise level from equipment is 50.0 dBA Leq for every hour, the day-night noise level would be 56.4 dBA Ldn.

Community noise levels are usually closely related to the intensity of human activity. Noise levels are generally considered low when below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse to public health.

Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day-to-night difference can be considerably less. Areas with full-time human occupation and residency are often considered incompatible with substantial nighttime noise because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference. At 70 dBA, sleep interference effects become considerable (U.S. EPA, 1974).

Noise Environment in the Project Area. The existing noise environment is highly influenced by traffic noise on State Route (SR 16) running parallel to the northerly line of the site. Given the industrial and residential nature of the area, ambient noise levels are likely higher during the daytime and lower during the evening and overnight hours. Additionally, during the daytime hours, noise levels are likely consistent with typical residential areas, considering the adjacent community of Woodland that likely generates routine traffic trips. Adjacent agricultural uses may also include routine noise-generating activities.

Noise Sensitive Areas. The nearest noise receptors to the Project site are:

- Multiple residences located on SR 16 between 200 and 500 feet north of the nearest Project boundary.
- The residential community of Woodland on SR 16 located 1,500 feet southeast of the nearest Project boundary.

Regulatory Background

Regulating environmental noise is generally the responsibility of local governments. The USEPA once published guidelines on recommended maximum noise levels to protect public health and welfare (USEPA, 1974), and the State of California maintains recommendations for local jurisdictions in the General Plan Guidelines published by the Governor's Office of Planning and Research (OPR, 2003). The following summarizes the local requirements.

The recommended standards provide acceptable ranges of noise levels to assess the compatibility of land uses in terms of the CNEL, which reflects an averaged noise level over a 24-hour or annual period. "Normally acceptable" noise levels are less than 75 dBA CNEL, and up to 80 dBA CNEL would be "conditionally acceptable" for outdoor noise levels in agricultural areas (Yolo County, 2009).

In addition, the following policies are presented in the Yolo County General Plan Health and Safety Element (Yolo County, 2009):

Policy HS-7.4. *For proposed new discretionary development, where it is not possible to reduce noise levels in outdoor activity areas to 60 dB CNEL or less using practical application of the best-available noise reduction measures, greater exterior noise levels may be allowed, provided that all available reasonable and feasible exterior noise level reduction measures have been implemented.*

Action HS-A62. *Regulate the location and operation of land uses to avoid or mitigate harmful or nuisance levels of noise to the following sensitive receptors: residentially designated land uses; hospitals, nursing/ convalescent homes, and similar board and care facilities; hotels and lodging; schools and day care centers; and neighborhood parks. Home occupation uses are excluded.*

5.13.2 Environmental Impacts and Mitigation Measures

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?

DURING CONSTRUCTION*, LESS THAN SIGNIFICANT IMPACT*. AS discussed under the Regulatory Background, Yolo County does not have an adopted noise ordinance. The Project applicant has indicated all noise-producing construction-related activities would be limited to weekdays and daylight hours to keep noise levels under the allowable range. Therefore, because the CNEL metric used by the Yolo County General Plan adds a decibel penalty for evening and overnight hours (when construction of the proposed Project would not occur), the thresholds used in this construction analysis are an hourly Leq of 75 dBA.

Table 5.13-1 shows the maximum noise levels for typical construction equipment expected to be used during construction and decommissioning of the proposed Project.

Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dBA reduction in the noise level for each doubling of distance from a single point source of noise. When lands adjacent to the noise source have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, an additional ground attenuation value of 1.5 dBA per doubling distance can be assumed (FTA, 2018). Therefore, because the proposed Project is surrounded by agricultural lands, construction noise levels presented in Table 5.13-1 would attenuate 7.5 dBA for each doubling of distance.

Table 5.13-1. Typical Construction Equipment Maximum Noise Levels

Off-Road Equipment Type	Typical Maximum Sound Levels (dBA at 50 feet)
Flatbed Truck	84
Water Truck	88
Dump, Concrete, and Tender Trucks	84
Vibratory Pile Driver	95
Crawler Tractors/Dozer	85
Tractor	84
Backhoe/Loader	80
Forklift/Aerial Lift	83
Air Compressor	80
Generator	78
Concrete Vibratory Mixer	80
Roller	85
Compactor	80
Excavator	85
Grader	85
Pump	77
Drill Rig	85
Scraper	85
Welder	73
Trenching Machine	82

Source: USDOT FHA, 2017

As described earlier, the closest potential noise receptors to the Project boundary are residences located from 200 to 500 feet north of the nearest Project boundary. At 200 feet, a "worst case" instantaneous peak noise level of 95 dBA at 50 feet from the source would attenuate to approximately 80 dBA.

The overall average noise levels during a typical day of construction or decommissioning would be much lower. Truck trips and truck use would not be constant throughout the workday. Additionally, during construction, a pile/vibratory/rotary driving technique, like that used to install freeway guardrails, would be used to install pipes to which the panel rack(s) would be attached. It takes 10 minutes or less to drive a pile for the solar array poles, so each site would take less than 20 percent of an hour. Thus, the average hourly noise levels would be less than the peak levels shown in Table 5.13-1.

Noise from construction and decommissioning of the Project would be temporary in nature, limited to approximately 3 months. The construction and decommissioning noise impact under this criterion would be less than significant with mitigation incorporated.

DURING OPERATION*, LESS THAN SIGNIFICANT IMPACT*. The proposed solar facility operations would generate continuous noise from power inverters, transformers, battery storage, and maintenance vehicles and activities (such as panel cleaning and repairs). Tracking motors on individual panels are nearly silent and are not considered in this analysis. Table 5.13-2 shows the expected maximum noise levels for proposed solar facility operating equipment that would generate continuous noise.

Table 5.13-2. Typical Solar Equipment Expected Maximum Noise Levels

Off-Road Equipment Type	Typical Maximum Sound Levels (dBA at 50 ft)	Estimated CNEL Levels (dBA at 50 ft)
Inverter	74.3	81.0
Transformer	53.1	59.8
Battery Energy Storage System	68.0	74.7

Source: NoiseMeters, 2021

Identical to construction noise, operation noise levels presented in Table 5.13-2 would attenuate 7.5 dBA for each doubling of distance due to spread and adjacent terrain. As described earlier, the closest potential noise receptor to the Project boundary is a residence approximately 200 feet north. However, the inverters, transformers, and BESS equipment will be located at least 350 feet from the nearest noise receptor (residence located on agriculturally zoned land). At 300 feet, a "worst case" operation CNEL inverter noise level of 81 dBA at 50 feet from the source would attenuate to less than 66 dBA. Additionally, inverters would be enclosed, significantly reducing the spread of noise.

Maintenance noise levels would primarily be caused by deliveries to and from the site. Maintenance hours are expected to occur between the hours of 8:00 a.m. and 6:00 p.m., Monday through Friday. The PV facility would be maintained by up to four part-time operations and maintenance (O&M) workers on a quarterly and as-needed basis. O&M would create an average of 8 inbound and outbound truck tips per quarter. This temporary and intermittent trip noise would not result in any change to the average (Leq) daytime ambient noise levels.

Maintenance and panel washing of the solar panels would be expected to generate peak noise levels of approximately 77 to 88 dBA hourly Leq at 50 feet (based on the equipment shown in Table 5.13-1). All operational noise would attenuate to below Yolo County thresholds.

Furthermore, noise generated from periodic maintenance activities would be short-term and limited in duration. Therefore, noise from operations and maintenance would be less than significant.

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

LESS THAN SIGNIFICANT IMPACT. Groundborne vibration levels from construction equipment and activities would be perceptible only to persons in the immediate vicinity of the work or staging areas. The activity that would be most likely to cause groundborne vibration would be the passing of heavy trucks on uneven surfaces. However, SR 16 is paved and would not generate vibration from any loaded trucks accessing the site. Because the impact from construction or decommissioning-related groundborne vibration would be short-term (3 months) and confined to only the immediate area around activities (within about 25 to 50 feet). No sensitive receptors would be exposed to any construction/decommissioning vibration. Operation and maintenance of the proposed project would not involve any equipment likely to produce groundborne noise or vibration outside the Project boundary. Accordingly, Project impacts related to vibration would be less than significant.

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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

NO IMPACT. The nearest airport to the Project site is the Watt-Woodland Airport, located about 3.1 miles west of the Project. The next closest airport, Yolo County Airport, is located over 7.4 miles south of the Project site. Due to the distance of the proposed Project to these aviation facilities, neither construction nor operation of the Project would subject workers to excessive noise levels from airport facilities. No impact would occur.

Noise Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.14 Population and Housing

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.14.1 Setting

The Project site is located about a quarter of a mile west of the City of Woodland in Yolo County on State Route (SR) 16 and is adjacent to the Bayer Crop Science facility located at 37437 SR 16. Nearby cities include Davis, Winters, Woodland, and Sacramento. As of January 2021, the population of Yolo County, including the cities of Davis, West Sacramento, Winters, and Woodland, was estimated at 217,500, with a 1.7 percent population decline from January 1, 2020. During that same time period, the City of Woodland had a population of 60,978, with an estimated annual growth of 0.3 percent (CDF, 2021).

5.14.2 Environmental Impacts and Mitigation Measures

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. There would be no direct population growth induced by this Project because it does not involve the construction of new residences or new businesses. Throughout the 3-month long construction process, an expected 32 personnel would commute to and from the site from local communities. De-commissioning of the solar farm in 20 years would also require approximately 32 personnel and be of short duration. Construction (and decommissioning) needs are not expected to result in relocation of workers to the area. Once construction is completed, two to four individuals would be employed on a part-time basis to provide maintenance, repair, and other services required for the PV facility. The PV operations and maintenance (O&M) activities would occur at quarterly intervals and would include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules (up to two times per year).

The Project would create a new source of renewable energy in Yolo County. However, the additional energy supplied would not impact population growth because the Project is designed and sized to only provide enough electricity to power the Bayer Crop Science facility through direct use and power to the Tesla battery storage units, for use at times of the day with low generation. Therefore, the proposed Project would not result in increases in population but would seek to partially replace existing demand for electricity from carbon-based sources.

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

NO IMPACT. The proposed Project would be located on an agricultural field and would not displace any people or housing. Construction of the Project would occur for approximately 3 months, with decom-

missioning having a similar, or shorter duration. Neither activity is expected to result in permanent relocation of workers to the Project area. Construction personnel would likely commute from local communities. The Project would not interfere with existing housing, and therefore, would not displace current residents.

Population and Housing Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.15 Public Services

PUBLIC SERVICES

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.15.1 Setting

The Project site is located within the Willow Oak Fire Protection District. The Project site falls within the Willow Oak Fire Protection District Station No. 6 jurisdiction, located at 17535 County Rd 97, Woodland, California. The Project will comply with the County and Fire District's requirements regarding fire protection and safety.

Law enforcement services in Yolo County are provided by the County Sheriff Coroner's Office. This department patrols the County, administers the County Jail and work program, provides animal control services, and serves as the County Coroner. The department has 300 full-time and part-time employees and volunteers (Yolo County Sheriff's Office, 2021).

The Project site is located within the Woodland Joint Unified School District, which serves the communities of Woodland, Knights Landing, Yolo, and Zamora. This district has 12 elementary schools, two junior high schools, and four high schools. The district office is located at 435 6th Street, Woodland approximately 2.25 miles east of the Project site.

Yolo County Parks Division provides park and recreation services within Yolo County. The County provides regional parks with camping, boating, and fishing (Yolo County, 2021). The Project site is in close proximity to Cache Creek Nature Preserve, Wild Wings Park, and the Gibson Historical Museum. These parks provide walking trails, native habitat restoration, and the museum provides historical arts and cultural exhibits (Yolo County, 2009).

Regulatory Background

National

National Fire Protection Association (NFPA) Standard 855. The NFPA 855 Standard for the Installation of Stationary Energy Storage Systems, is a new standard being developed to define the design, construction, installation, commissioning, operation, maintenance, and decommissioning of stationary energy storage systems. The standards are available only to association members, but the National Rural Electric Cooperative Association (NRECA) has provided a summary. NRECA states that for battery energy storage

specifically, this Standard could regulate batteries used by utilities for grid-scale energy storage as well as those which supply DC power for protection and controls in substations, generating stations, or other applications that were previously exempt from such regulation. Examples of the proposed requirements that could be imposed on these installations include: fire detection and suppression systems (including water-based suppression systems), Underwriters Laboratory (UL) listing of battery systems, as well as battery size and separation restrictions.

Underwriters Laboratories. NFPA 855 references the UL 9540A standard for meeting strict Energy Storage System thermal runaway fire safety testing requirements. The standard provides a systematic evaluation of thermal runaway and propagation in energy storage systems at cell, module, unit, and installation levels (UL, 2021).

Local

The Yolo County 2030 Countywide General Plan, Public Facilities and Services Element (Yolo County, 2009) includes numerous policies related to public services. Relevant policies are presented below.

Policy PF-5.3. *Require assertive fire protection measures in all development to supplement limited rural fire district resources.*

Policy PF-5.9. *The County shall require, and applicants must provide, a will-serve letter from the appropriate fire district/department confirming the ability to provide fire protection services to the project, prior to each phase.*

5.15.2 Environmental Impacts and Mitigation Measures

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:

a) Fire protection?

LESS THAN SIGNIFICANT IMPACT. The California Department of Forestry and Fire Protection (CAL FIRE) designates the western portion of Yolo County as a moderate fire hazard (CAL FIRE, 2019). The proposed Project site's Fire Hazard Severity is currently not zoned by CAL FIRE. The surrounding area consists of field crops, orchards, residences, light industrial use, as well as the Bayer Crop Science facility, adjacent to the west. The Project site falls within the Willow Oak Fire Protection District, and therefore will remain under their jurisdiction. The nearest fire department within the Willow Oak Fire Protection District is located a little over one-half mile northwest of the Project site. Due to the small scale of the Project, it would not induce population growth in the Project area or affect service ratios, response times, or other performance objectives for fire response services.

While there may be a slight increased need for fire protection response during Project construction and operation due to the Tesla lithium-ion batteries, these effects would not be sufficient to induce the construction of new or physically altered governmental facilities that could result in significant environmental impacts. The lithium-ion batteries are stored in temperature-regulated containers set on concrete pads located on the site. Additionally, although the proposed vegetative substrate could increase fuels during the summer months, the vegetative substrate would be maintained and mowed as needed to ensure fuel loads do not create a fire hazard.

The final design of the battery system would comply with County requirements and other study results including geotechnical studies, soils reports, and drainage/storm drainage surveys. Per County Policy PF-5.3, the Project would be adjusted in the building plan approval stage, if necessary, to meet current building and fire codes and comply with all County Fire requirements at the site.

During operation, the Project would comply with best management practices (BMPs), permit requirements, building and fire code requirements, and all applicable rules and regulations pertaining to hazardous materials discussed in Section 5.9, Hazards and Hazardous Materials, which would serve to reduce the potential need for fire department services.

County Policy PF-5.9, requires the Applicant to obtain a "will serve" letter from the Willow Oak Fire Protection District. Obtaining this letter will be a permit condition of approval. Therefore, the Project impact would be less than significant regarding fire protection services.

b) Police Protection?

LESS THAN SIGNIFICANT IMPACT. The proposed Project would not require police services during construction, decommissioning, or operation beyond routine patrols and response at the level currently provided. As with fire protection services discussed previously, the construction, decommissioning, and operation of the proposed Project would not induce population growth, result in a need for additional police facilities, or significantly affect response times or other service performance. With the installation of solar PV modules mounted on structures, and battery storage systems, crime in the area may be slightly impacted. However, this is not expected to disrupt the current level of services provided by the Yolo County Sheriff's Office.

c) Schools?

NO IMPACT. The proposed Project would not result in an increase in population within the area. Construction is expected to take approximately 3 months and would not require the permanent relocation of workers to the Project area. The on-site construction workforce for the Project is expected to peak (overlapping construction activities) at 32 individuals, and the decommissioning workforce is expected to peak at 20 individuals. All the construction and decommissioning personnel would likely commute to the site daily from local communities. Hence, there would not be an expected increase in families, or in school-age children, as a result of the temporary construction work. During operation and maintenance (O&M), activities are estimated to require two to four workers and to occur in quarterly intervals. Thus, O&M activities are not expected to result in the relocation of workers, and therefore, the Project would have no impact on schools.

d) Parks?

NO IMPACT. The required construction and decommissioning workforce for the Project would likely be hired from the available regional workforce. Although some workers may use recreational areas during the Project construction/decommissioning period, increased use would be minimal and/or temporary because the workforce is small and is anticipated to commute to the Project from local communities. A part-time O&M staff of two to four people would be responsible for performing all routine and emergency operational and maintenance activities. Such activities would be done in quarterly intervals. Therefore, they would not contribute substantially to the physical deterioration of existing parks and recreation areas. No impacts would occur.

e) Other Public Facilities?

NO IMPACT. Project construction and decommissioning would not likely result in an increase in the number of people in communities within the Project vicinity because it is assumed that they would commute from local communities. O&M activities of the PV equipment would require only two to four personnel to visit the site in quarterly intervals. Although the O&M workers are not anticipated to relocate near the Project site; even if they did, the resulting increase in local population would be insignificant. Therefore, public facilities, such as libraries or courthouses, are expected to adequately handle any small increase in the local population. Therefore, there would be no impacts on other public facilities.

Public Services Impact Conclusions

Less than significant impacts are expected to the Willow Oak Fire Protection District and the Yolo County Sheriff's Office. No impacts are expected to schools, parks, or other public facilities. Therefore, the Project impacts would be less than significant with no mitigation required.

5.16 Recreation

RECREATION	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

5.16.1 Setting

Yolo County has two parks within 5 miles of the Project site. These parks are intended to provide recreational areas for both the County population and outside visitors. These parks include Cache Creek Nature Preserve and Wild Wings Park (Yolo County, 2021a). The Cache Creek Nature Preserve provides natural walking trails, and the Wild Wings Park is located on a golf course (Yolo County, 2021b).

Regulatory Background

According to the Yolo County 2030 Countywide General Plan, Public Facilities and Services Element (Yolo County, 2009), expanding park and recreation opportunities is required to meeting the needs of the population as it increases. This Project will not increase population growth and there are no recreation policies that would apply to the Project.

5.16.2 Environmental Impacts and Mitigation Measures

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?

LESS THAN SIGNIFICANT IMPACT. The temporary Project construction and decommissioning would take approximately 3 months each, throughout which there would be a maximum of 32 and 20 construction workers, respectively, at peak. It is expected that the construction workforce would be locally sourced. Thus, the construction workforce would have little effect on the access or use of recreational facilities such that it would cause substantial physical deterioration of any facility.

During operation of the facility, two to four employees would visit the site in quarterly intervals. Hence, the proposed Project would not substantially increase the use of existing recreational facilities nor cause accelerated deterioration of those facilities.

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 use of recreational facilities or require construction or expansion of facilities that might have an adverse physical effect on the environment.

Recreation Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.17 Transportation

TRANSPORTATION **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines §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?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

5.17.1 Setting

The Project site is located in unincorporated Yolo County, approximately 0.25 miles west of the City of Woodland on State Route (SR) 16, and adjacent to the Bayer Crop Science facility. The transportation system within this unincorporated area consists of a system of State freeways, highways, and rural county roads that serve primarily agricultural uses.

Highways

SR 16 runs east to west along the northern boundary of the Project site and provides direct access to the site. SR 16 also connects the Project site to the City of Woodland to the east at County Road 98, where SR 16 heads north to the Interstate 5 (I-5) interchange. Interstate 5 runs north to south, approximately 3.25 miles east of the Project site. I-5 heading south intersects California State Route 113 that runs through the City of Woodland, as I-5 veers to the east before continuing south through Sacramento.

Arterial Roads

The following arterial roads are in proximity to the Project site, and are shown on Figure 4-1 (Vicinity Map):

- County Road (CR) 20 runs east to west, approximately 1 mile north of the Project site.
- CR 24 runs east to west, approximately 0.9 miles south of the Project site.
- CR 98 runs north to south, approximately 0.25 miles east of the Project site,
- CR 97 runs north to south, approximately 0.5 miles west of the Project site, connecting to SR 16 to the north and CR 24 to the south.

Mass Transit

Transit services are provided through the Yolo County Transportation District (YCTD) (Yolo County, 2009). The Yolobus Cache Creek transit route (215WB bus, Cache Creek Casino) runs along State Route 16 at the northern boundary of the Project site. This transit route operates every day of the week, from 5:45 AM to 9:55 PM, and has 16 stops starting from the County Fair Mall in Woodland and ending at Cache Creek Casino Resort (YCTD, 2021) in Brooks. The nearest bus stop to the Project site is at CR 98 and West Lincoln Avenue in Woodland, approximately 0.3 miles east of the Project site (YCTD, 2021).

Bicycle

A proposed Class II bikeway (a bike lane, providing a striped and stenciled lane for one-way travel on either side of a street or highway) runs parallel to SR 16 just south of the Project site and turns perpendicular to SR 16, heading north to south, at the City of Woodland boundary (Yolo County, 2009).

Regulatory Background

Yolo County General Plan

The following policies are presented in the Yolo County General Plan, Circulation Element:

Policy CI-3.3. *CEQA review for subsequent projects will analyze project traffic and circulation impacts using both the Yolo County General Plan policies and Caltrans policies (based on the CSMPs, TCCRs, or other guidelines) as applicable.*

Policy CI-3.18. *Ensure adequate access for emergency vehicles.*

Policy CI-7.2. *Encourage movement of goods by truck on freeways and other appropriate designated routes.*

California Department of Transportation (Caltrans), Transportation Impact Study Guide

The Transportation Impact Study Guide (Caltrans, 2020) references OPR's 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA, which identifies projects and areas presumed to have a less than significant transportation impact. It states:

> *In any area of the state, absent substantial evidence indicating that a project would generate a potentially significant level of VMT [vehicle miles traveled], or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.*

5.17.2 Environmental Impacts and Mitigation Measures

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. During Project construction, decommissioning, and operation, the Project site would be accessed directly from SR 16. Because of the limited construction duration and lack of workers required for daily operations, the Project would not impede goods movement along SR 16, in accordance with Policy CI-7.2 of the County's General Plan Circulation Element. In addition, the Project does not include any changes to SR 16 that would conflict with the proposed Class II bikeway (should it be designated prior to construction) or the existing Yolobus transit route (215WB bus, Cache Creek Casino) along this roadway. It is anticipated that decommissioning activities would be similar to or less than construction. Therefore, the Project would result in no impacts pertaining to compliance with a plan, ordinance, or policy related to the circulation system.

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

DURING CONSTRUCTION*, LESS THAN SIGNIFICANT IMPACT*. As addressed in CEQA Guidelines Section 15064.3 (b), a qualitative analysis of construction traffic VMT may be appropriate. The onsite construction/decommissioning workforce for the Project is expected to peak (during overlapping construction activities) at 32 and 20 individuals, respectively. The construction workforce is anticipated to commute to the Project

site each day from local communities. The worker vehicle trips anticipated to be generated from the Project assumes all employees would commute alone due to current and ongoing COVID-19 protocols. Additionally, construction activity trips would include a few trucks arriving and departing the site each day to deliver materials, including supplies and equipment. Heavy equipment would not be hauled to/from the Project site daily; it would be hauled in at the beginning of construction and hauled out upon decommissioning of the site.

Based on these assumptions, Project construction would generate approximately 64 worker vehicle trips per day (32 vehicle trips each way); and would require 5 to 7 daily light truck trips and one daily heavy truck trip over the course of Project construction. This results in approximately 78 trips per day (32 passenger vehicles and 7 trucks). Some truck trips associated with delivery of materials and equipment could originate from longer distances. While these few construction truck trips may require high VMT to access the Project site, they would be temporary trips and only in limited volumes necessary to deliver equipment and materials to the site. Such construction trips, including construction worker commute trips, are not considered to be transit-friendly trips that could reduce overall VMT of Project construction (construction workers typically travel with their own tools and safety equipment). Upon completion of construction, worker commute trips and truck trips would cease. Therefore, the daily contribution of 78 construction trips is not considered a substantial or permanent increase in VMT compared to regional averages for construction projects of a similar scale, nor would they conflict with plans and policies related to the reduction of VMT. Impacts would be less than significant.

Decommissioning would generate fewer daily worker and truck trips as that occurring under Project construction. All construction/decommissioning trips would be temporary and would cease when construction and decommissioning are completed. Since such trips would be temporary, decommissioning of the Project is not considered to generate a substantial or permanent increase in VMT nor would it conflict with plans and policies related to the reduction of VMT. Impacts would be less than significant.

DURING CONSTRUCTION*, LESS THAN SIGNIFICANT IMPACT*. With respect to long-term permanent trips associated with a Project, both Caltrans and the California Office of Planning and Research (OPR) have developed screening thresholds to indicate when a detailed VMT analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact (OPR, 2018; Caltrans, 2020). Operation and maintenance of the PV equipment is expected to generate a maximum number of 8 trips a day on a quarterly basis, which would come from two to four part-time workers and additional maintenance vehicles. Therefore, the Project would not exceed the threshold that requires a VMT study and no long-term VMT impacts would occur from the proposed Project. Impacts would be less than significant.

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)?

LESS THAN SIGNIFICANT IMPACT. Project construction, operation, and decommissioning do not include any changes to the roadway alignment or intersections along SR 16. Therefore, the Project would not introduce any hazards, including sharp curves or dangerous intersections, to this roadway. Additionally, construction would not require the temporary closure or disruption of any public roadways. Stabilized construction entrances and exits would be installed at each driveway to facilitate access for construction vehicles and equipment. In addition, the Project design includes an onsite perimeter compacted dirt road to facilitate vehicle and equipment access during Project operation. By providing adequate access

to and within the Project site, any potential impacts related to traffic hazards from the movement of vehicles and equipment would be substantially minimized. Therefore, the Project would result in less than significant impacts.

d. Would the project result in inadequate emergency access?

NO IMPACT. Construction would not require the temporary closure or disruption of any public roadways. Additionally, during Project construction and decommissioning, stabilized construction entrances and exits would be installed at each driveway to facilitate access for construction vehicles and equipment. Because these access points would be provided at the Project site, emergency access along SR 16, as well as access to or within the Project site, would not be affected by Project construction or decommissioning. During operation, the Project site would be accessed directly from SR 16 with an onsite perimeter compacted dirt road for fire access and facility operations. The Project design would be reviewed and approved by the Willow Oak Fire Protection District to ensure compliance with the County's requirements for fire protection and safety, which includes the provision of adequate emergency access. Therefore, the Project would result in no impacts.

Transportation Impact Conclusions

The Project would result in less-than-significant transportation impacts, with no mitigation required.

5.18 Tribal Cultural Resources

TRIBAL CULTURAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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 §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 §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Significance criteria established by CEQA Guidelines, Appendix G.

5.18.1 Setting

Tribal Cultural Resources (TCRs) is a newly defined class of resources under Assembly Bill 52 (AB 52). TCRs include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a California Native American tribe (Tribe). To qualify as a TCR, the resource must either: (1) be listed on, or be eligible for listing on, the California Register of Historical Resources (CRHR) or other local historic register; or (2) constitute a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC §21074). AB 52 also states that tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of TCRs within their traditional and cultural affiliated geographic areas. Therefore, the identification and analysis of TCRs should involve government-to-government tribal consultation between the California Environmental Quality Act (CEQA) lead agency and interested tribal groups and/or tribal persons. (PRC § 21080.3.1(a)).

Approach to Analysis of Tribal Cultural Resources

Information presented in this section was gathered through AB 52 government-to-government consultation between Yolo County (County) and the California Native American Tribes that have cultural affiliations with the proposed Project area and that have requested to consult on the proposed Project. Supplementary information was gathered from the cultural resources literature and records search, cultural resources field survey, Native American Heritage Commission (NAHC) Sacred Lands File search, and ethnographic summary that was described in Section 5.5 (Cultural Resources).

Project Notification

AB 52 requires that within 14 days of the lead agency determining that a project application is complete, a formal notice and invitation to consult about the proposed Project is to be sent to all tribal representatives who have requested, in writing, to be notified of projects that may have a significant effect on TCRs located within the proposed Project area (PCR Sec. 21080.3.1(d)).

A Pre-Application Review was conducted for the project in fall 2020, where local agencies, including the Yocha Dehe Wintun Nation (YDWN), were given the opportunity to provide early agency comments. YDWN provided a request to the Department of Community Services for consultation during the pre-application review with a letter dated November 16, 2020.

Upon receiving a complete submittal of an application for a Use Permit, a formal AB 52 invitation for consultation was prepared and sent via email on December 10, 2021, to those tribes requesting such notification, including the YDWN, Wilton Rancheria, Cortina Rancheria Band of Wintun Indians of California, Ione Band of Miwok Indians, and Torres-Martinez Desert Cahuilla Indians. The YDWN responded to the formal email consultation request with a second letter dated January 7, 2022, requesting a site visit in addition to the items addressed below.

The email consultation request included a brief description of the proposed Project, instructions on how to contact the lead agency's Project Planner, a cultural resources report, and a statement that responses must be received within 30 days of the date of receipt of the email.

AB 52 Tribal Consultation

As indicated above, the YDWN requested to consult on the proposed Project. The first letter (in response to a Pre-Application Review) stated that the Tribe was not aware of any TCRs and that a cultural monitor was not needed. The YDWN requested notification of any discovered information or cultural items and that the Project personnel receive cultural sensitivity training. The second letter (in response to the AB 52 invitation for consultation) requested a site visit which was conducted on January 28, 2022. No further requests were provided, and the consultation was concluded.

Even though no known TCRs were identified within the Project area, the area lies within the aboriginal territories of the YDWN and potential impacts to unknown cultural resources and TCRs are possible. In response to potential inadvertent discoveries Mitigation Measures CUL-1 though CUL-3 in Section 5.5, Cultural Resources, were developed to address these impacts and are relevant to TCRs.

5.18.2 Environmental Impacts and Mitigation Measures

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)?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. There are no known TCRs that are listed in, or are known to be eligible for listing in, the CHRH or local register of historical resources within the Project area or the 0.25-mile radius. However, it is possible that previously unidentified TCRs that may be eligible for inclusion in the CRHR or local registers could be discovered or damaged during ground disturbance, which would constitute a significant impact absent mitigation. Implementation of Mitigation Measures CUL-1 through CUL-3 (see Section 5.5 Cultural Resources) would evaluate and protect unanticipated TCR discoveries, thereby reducing this impact to less than significant.

(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?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. There are no known TCRs that are listed in, or are known to be eligible for listing in, the CHRH or local register of historical resources within the Project area or the 0.25-mile radius. However, it is possible that previously unidentified TCRs that may be eligible for inclusion in the CRHR or local registers could be discovered or damaged during ground disturbance, which would constitute a significant impact absent mitigation. Implementation of Mitigation Measures CUL-1 through CUL-3 (see Section 5.5 Cultural Resources) would evaluate and protect unanticipated TCR discoveries; thereby, reducing this impact to less than significant.

Tribal Cultural Resources Impact Conclusions

The AB 52 consultation requests to interested tribes yielded a response from the Yocha Dehe Wintun Nation. The Tribe stated that there are no known TCRs located within the Project area. Therefore, the analysis concludes that there will be no potential impacts to known TCRs. However, there is always the potential for ground-disturbing activity to cause an unexpected impact to buried TCRs that are presently unknown and unrecorded; therefore, Mitigation Measures CUL-1, CUL-2, and CUL-3 are recommended (See Section 5.5 Cultural Resources). Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would reduce impacts to unknown TCRs to less-than-significant levels.

5.19 Utilities and Service Systems

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.19.1 Setting

There are a variety of municipal wastewater systems that currently serve the cities and towns of Yolo County. The cities of Davis, Winters, and Woodland use secondary treatment systems. The Project would not require any permanent septic or sanitation infrastructure and the existing conditions at the site do not contain such features. During temporary construction and decommissioning activities, portable restrooms (porta-potties) would be delivered to the site and maintained by an affiliate or subcontracted entity.

Many agricultural land uses employ onsite ditches that convey stormwater to existing roadside ditches (Yolo County, 2009). The Project would require about 120,000 gallons of water for each routine panel washing operation. This wash water would be obtained from pre-existing wells on the Bayer site. In addition, during the first few years, approximately 550,000 gallons of water would be required to establish the cover crops around the solar arrays.

Utility service in Yolo County is provided by Pacific Gas & Electric (PG&E). Two major north-south transmission line corridors have been developed in the County, running along Dunnigan Hills and Interstate 505 (I-505) in the west and along Yolo Bypass in the east (CEC, 2021). The electricity generated by the PV field would provide electricity for the adjacent Bayer Woodland facility and charge the BESS. Any excess electricity not used to power the Bayer facility or BESS would be credited to Bayer through a Net Energy Metering (NEM) Program with PG&E.

AT&T is the primary provider of landline telephone service. Cell phone and wireless service is provided by a network across the County, but there are gaps or poor reception in several of the unincorporated communities and remote rural areas.

There are two public facilities for solid waste and recycling in Yolo County, the Yolo County Central Landfill and Esparto Convenience Center. The Yolo County Central Landfill is a 722-acre, Class III solid waste landfill that provides solid waste and recycling services. At the current waste disposal rate, the

landfill's closure date is estimated as January 1, 2081. The Esparto Convenience Center is an 11-acre facility accepting residential municipal solid waste and recycling. The transfer station does not have an estimated operational life; it will be closed when it is no longer needed (Yolo County, 2009).

Regulatory Background

Federal

Federal Clean Water Act. The State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) are responsible for the regulation and enforcement of the water quality protection requirements of the federal Clean Water Act (CWA) and the state's Porter-Cologne Water Quality Control Act (Porter-Cologne). The National Pollutant Discharge Elimination System (NPDES) is the permitting program that allows point source dischargers to comply with the CWA and Porter-Cologne laws. This regulatory framework protects the beneficial uses of the state's surface and groundwater resources for public benefit and environmental protection. Protection of water quality could be achieved by the proposed Project by complying with applicable NPDES permits from the SWRCB or the Central Valley RWQCB.

State

Integrated Waste Management Act. The Integrated Waste Management Act of 1989 requires cities and counties to reduce, by 50 percent, the amount of solid waste disposed of in landfills by the year 2000 and beyond. To comply with the Integrated Waste Management Act, counties adopt regulations and policies to fulfill the requirements of the Act.

Assembly Bill (AB) 341. Mandatory Commercial Recycling was one of the measures adopted in the AB 32 Scoping Plan in 2006. The Mandatory Commercial Recycling Measure focuses on increased commercial waste diversion as a method to reduce GHG emissions. This regulation reflects the statutory provisions of AB 341 (Chesbro, Chapter 476, Statutes of 2011) and provides additional procedural clarifications. In 2012, the Governor signed Senate Bill 1081 which included an amendment that requires a business that generates 4 cubic yards or more of commercial solid waste per week to arrange for recycling services (CalRecycle, 2021).

Local

Yolo County Climate Action Plan (CAP). The Yolo County Climate Action Plan (CAP) proposes greenhouse gas reduction measures in five sectors (Agriculture, Transportation and Land Use, Energy, Solid Waste, and Wastewater), and adaptation to reduce the emissions and combat climate change. In addition, the County set some supporting measures to be implemented by 2030.

County of Yolo General Plan. The Yolo 2030 Countywide General Plan, Public Facilities and Services Element (2009) includes numerous policies related to utilities and service systems. Relevant policies are listed below.

Policy PF-2.2. *Construct on-site stormwater detention facilities that are designed so that runoff from the 100-year storm event does not: (1) result in an increase in peak release rate; (2) result in a time decrease associated with the time of concentration; (3) contribute to adjacent flood problems; and/or (4) significantly alter the direction of runoff.*

Policy PF-9.2. *Manage property to ensure adequate landfill space for existing and planned land uses.*

Policy PF-9.8. *Requires salvage, reuse or recycling of construction and demolition materials and debris at all construction sites.*

***Policy PF-9.9**. Encourages use of salvaged and recycled materials in construction.*

***Policy PF-10.2**. Streamline the permitting process for the production of energy alternatives (including but not limited to photovoltaic, solar, wind, biofuels, and biomass), to reduce dependency on fossil fuels.*

***Policy PF-10.3**. Provide financial and regulatory incentives for the installation of alternative energy and alternative energy conservation measures in all development approvals.*

***Policy PF-10.4**. Provide financial and regulatory incentives for the installation of alternate energy and other alternate energy conservation measures for agriculture.*

***Policy PF-11.1**. Encourage the development of power generating and transmission facilities in appropriate alignments and locations, sufficient to serve existing and planned land uses.*

***Policy PF-11.3**. Require utility lines to follow field edges to minimize impacts on agricultural operations.*

***Policy PF-11.5**. Increase the availability and reliability of power to the rural areas, including underserved communities.*

5.19.2 Environmental Impacts and Mitigation Measures

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?

LESS THAN SIGNIFICANT IMPACT. The Project would not affect existing water, wastewater, or stormwater systems. During construction and decommission, water for dust suppression would be sourced from onsite wells and would consist of up to two tanker trucks per week (approximately 8,000 gallons [0.02 AF]). Anticipated onsite water use during operations is estimated at 240,000 gallons (0.74 AF) of water for each routine panel washing operation, and 550,000 gallons (1.7 AF) of water would be required the first few years to establish the cover crops around the solar arrays—for a total of 790,000 gallons per year or 2.44 AFY during the first few years. It is expected that water use would decrease after the grass and pollinator substrate is established. Once the plant substrate is established, annual water use would reduce to 0.74 AF. All water used for operations would be sourced from an on-site well. A Storm Water Pollution Prevention Plan (SWPPP) would be prepared, and best management practices would be followed to reduce potential impacts to stormwater.

The goal of the Project is to increase the amount of renewable energy generation in Yolo County and provide renewable energy to the existing Bayer Woodland facility, thereby complying with the directives in the Yolo County Climate Action Plan. Although the Project involves the construction of a new PV farm, it would not cause significant environmental effects. The addition of the solar farm would not result in significant environmental effects related to the construction of utility and service infrastructure, and the Project supports local and state goals to increase generation of renewable power. The Project would not involve the expansion of telecommunication facilities. This Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, natural gas, or telecommunication systems.

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?

LESS THAN SIGNIFICANT IMPACT. Water use during construction would be primarily for dust suppression and would be sourced from an on-site well. Over the past 5 years, water use on the portion of the parcel the Project encompasses has averaged 0.6 AFY for crop irrigation. As stated in discussion a., the proposed Project would require up to 8,000 gallons (0.02 AF) of water per week during the construction phase

(3 months), up to 240,000 gallons (0.74 AF) of water for module washing per year during the operation phase, and up to 550,000 gallons (1.7 AFY) for the first few years of operation to irrigate the plant substrate. In the case of a Yolo County Flood Control and Water Conservation District declared "allocation year," the Applicant will continue to source water for the existing Bayer Crop Science facility operations, and therefore, will likely have the resources to supply water to this solar facility. The Project would not significantly increase the water demand of the parcel and would, thereby, have sufficient water supplies available to serve the Project. Therefore, the Project would have a less than significant impact on water supply.

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?

LESS THAN SIGNIFICANT IMPACT. Approximately 32 workers may be onsite at peak for construction and 20 workers for peak decommissioning activities. A part-time O&M staff of two to four people will be responsible for performing all routine and emergency operational and maintenance activities of the PV equipment. Such activities would be done in quarterly intervals and would include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules (up to two times per year) if needed to increase the performance of the panels. Portable restrooms (porta potties) would be used during Project construction and decommission, which would be pumped out by a vacuum truck, as needed. The amount of wastewater generation during the construction and decommission months would be temporary and would not result in a strain on the area's wastewater treatment operations. Therefore, the Project would have no impact on the wastewater treatment provider's ability to serve the Project's projected demand in addition to the provider's existing commitments.

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?

LESS THAN SIGNIFICANT IMPACT. Construction of the proposed Project would generate solid waste. Minimal to no solid waste would be generated during operation. During decommissioning, the chemical components of the batteries would either be disposed of as hazardous waste, recycled, or reused, depending on technology at that time. The solar panels would be recycled at the end of their lifetime. Therefore, this Project would have minimal impacts on landfills and would not affect the ability of landfills in the area to comply with federal, State, and local statutes and regulations pertaining to solid waste.

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

LESS THAN SIGNIFICANT IMPACT. As noted in d., the chemical components of the batteries would either be disposed of as hazardous waste, recycled, or reused, and the solar panels would be recycled at the end of their lifetime. The Project would be consistent with General Plan Policy PF-9.8, that requires salvage, reuse, or recycling of demolition materials. Additionally, the recycling of building waste would be encouraged. Local solid waste regulations, as implemented and enforced by Yolo County, would be satisfied and the Project would have no adverse impacts on solid waste.

Utilities and Service Systems Impact Conclusions

No significant adverse impacts to utilities and service systems are identified or anticipated, and no mitigation measures are required.

5.20 Wildfire

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

Significance criteria established by CEQA Guidelines, Appendix G.

5.20.1 Setting

The California Department of Forestry and Fire Protection (CAL FIRE) identifies and maps areas of significant fire hazards based on fuels, terrain, and other relevant factors. These maps categorize this information by Fire Hazard Severity Zones (FHSZs), grouped into un-zoned, moderate, high, and very high zones. State Responsibility Areas (SRAs) are locations where the State of California is responsible for wildfire protection and Local Responsibility Areas (LRAs) are locations where the responding agency is the county or city.

The areas with the most significant fire hazard in Yolo County are the far western and northern portions of the County. In the increasingly hilly landscapes rising to the north and west, the rugged topography creates a landscape where fires can spread rapidly upslope and access for suppression equipment is limited (Yolo County, 2009a). CAL FIRE designates these areas of the County as moderate fire hazard (CAL FIRE, 2021). The Project is located west of the City of Woodland on flat land that was previously used to grow processing tomatoes. The Project site is surrounded by primarily agricultural land use, consisting of dry and irrigated field crops, orchards, and agricultural research facilities (Figure 4-3). However, there are some residences and industrial uses adjacent to the proposed parcel. The Project site's Fire Hazard Severity is currently un-zoned by CAL FIRE and is classified as a LRA. The FHSZ classification west of the Project site is moderate.

Regulatory Background

Fire Hazard Severity Zones (Pub. Resources Code, §§ 4201-4204). The purpose of establishing FHSZs is to provide for the classification of lands within SRAs in accordance with the severity of fire hazard present and identify measures to be taken to retard the rate of spreading and to reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property.

Fire Hazard Severity (Cal. Code Regs, tit. 14, § 1280). FHSZs reflect the degree of severity of fire hazard.

Local

County of Yolo Emergency Operations Plan. This document outlines the responsibilities of the Emergency Management Organization for Yolo County. The plan includes a hazard analysis that identifies the natural hazards and risks that can impact a community based on historical experience, and estimates the potential frequency and magnitude of disasters. The plan also includes developed standard emergency management goals and objectives as part of a strategy for emergency management.

The following policies are presented in the Yolo County General Plan, Health and Safety Element (Yolo County, 2009a).

Policy HS-3.1. *Manage the development review process to protect people, structures, and personal property from unreasonable risk from wildland fires.*

Policy HS-3.2. *Encourage well-organized and efficient coordination between fire agencies and the County.*

The following policies are presented in the Yolo County General Plan, Public Facilities and Services Element (Yolo County, 2009b).

Policy PF-5.9. *The County shall require, and applicants must provide, a will-serve letter from the appropriate fire district/department confirming the ability to provide fire protection services to the project, prior to each phase.*

5.20.2 Environmental Impacts and Mitigation Measures

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

LESS THAN SIGNIFICANT IMPACT. During Project construction, traffic levels would experience a minimal increase that is not expected to degrade traffic performance significantly. No streets would be closed, rerouted, or substantially altered during construction. The solar panel structures would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The Project construction and decommissioning involves the addition of 32 and 20 workers, respectively (peak) to the local area, which could potentially increase emergency response demand during a potential evacuation. However, construction and decommissioning would be temporary. Normal operations of the PV equipment would be managed onsite, with a part-time maintenance staff of two to four people visiting the site on a quarterly basis. Emergency access to the Project site and surrounding area would be unaltered. Thus, the 20-year Project would not interfere with the coordination of the County's emergency operations plan, nor would the Project interfere with any statewide emergency response, or evacuation routes or plans.

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 topography of the Project site is flat, and the Project area is surrounded by agriculture fields, orchards, and residences. The presence and usage of fossil fuels and power during construction could lead to a temporary increased risk of wildfire and pollutant concentrations in the event of a fire during construction. However, since the Project area will be surrounded by irrigated agriculture, the potential of increased wildfire risk is minimal. The flowering cover crops would be irrigated and maintained (thinned and mowed) so that they would not increase the risk of wildfire at the Project site. The proposed Project would have less than significant impacts pertaining to exacerbating wildfire risks and

increased pollutant concentrations as a result of a wildfire due to prevailing winds, slope, or elevation of the Project site.

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. The greatest fire risk could be potential upset to the onsite battery energy storage facilities. The Tesla Powerpack BESS contains sealed lithium-ion battery pods, each with an isolated DC-DC converter, a dual coolant and refrigerant loop system, and hundreds of embedded sensors. The risk of fire from the Tesla Powerpack system is extremely low. The BESS would be located on existing hardscape, and construction of foundations and battery containers would conform to all applicable building codes and regulations ensuring that the proposed Project would have less than significant impacts pertaining to exacerbating fire risks.

An emergency access road of compacted gravel will be installed around the perimeter of the facility and will be used for operation, maintenance, and fire access. The road would not exacerbate fire risk and would serve as a fire break in the event of a fire. The installation and maintenance of the BESS and access roads would not exacerbate fire risk and would, therefore, have a less than a significant impact.

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 site is flat, with the nearest topographical feature being the foothills of western Yolo County, approximately 13 miles west of the site. Due to the flat topography of the site, minor ground disturbance associated with Project construction would not destabilize any slopes that could trigger landslides. While the solar modules themselves have an impervious surface, these angled panels would enable water to flow to the ground, with runoff flowing in the direction of the natural drainage of the site, preventing ponding or erosion. The Project would not 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. Impacts would be less than significant.

Wildfire Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.22 Mandatory Findings of Significance

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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.)	☐	☐	☒	☐
c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Significance criteria established by CEQA Guidelines, Appendix G.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Based on the information provided in this Initial Study and use of the mitigation measures required, the Project would not significantly degrade the quality of the environment.

Section 5.4, Biological Resources, identifies that the Project would impact approximately 10.8 acres of Swainson's hawk and white-tailed kite foraging habitat. The Project is not expected to affect the local or regional breeding population. In addition, because the Project site would be managed with a grassland and pollinator plant substrate, it is expected to support relatively high-value habitat for rodent and insect prey species and serve as a source of recolonization of rodent species into adjacent cultivated fields, similar to fallow or weedy fields or uncultivated grasslands and pastures. As a result, the installation of 10.8 acres of solar arrays on agricultural land would enhance biological values, including prey resources for the Swainson's hawk and white-tailed kite. Enhanced habitat paired with the implementation of MM BIO-1 would ensure a less-than-significant impact to Swainson's hawk or white-tailed kite foraging habitat.

Section 5.5, Cultural Resources, indicates that the record search and intensive pedestrian survey did not identify any known historical resources in the Project area. However, ground-disturbing activity, such as grading, trenching, or excavations, has the potential to impact unknown buried resources that may be considered a unique archaeological resource per California Environmental Quality Act (CEQA). Therefore, mitigation measures—such as cultural resources awareness training (CUL-1), dealing with inadvertent discoveries (CUL-2), and treatment of human remains (CUL-3)—are required. They would reduce impacts to unknown resources to a less-than-significant level.

Similarly, Section 5.18, Tribal Cultural Resources did not identify any known resources in the Project area following an AB 52 consultation with the Yocha Dehe Wintun Nation. However, ground-disturbing activity, such as grading, trenching, or excavations, has the potential to impact unknown buried resources that may be considered a unique archaeological resource per California Environmental Quality Act (CEQA). Therefore, the cultural resources mitigation measures discussed above are recommended. Implementation of these measures would reduce impacts to unknown TCR resources to a less-than-significant level.

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, effects of other current projects, and the effects of probable future projects.)

LESS THAN SIGNIFICANT IMPACT. Based on the analysis provided in this Initial Study, the Project would have no significant cumulative impacts. Yolo County contains about 250,695 acres of prime farmland. The Project would occupy approximately 10.8 acres of prime farmland of the County's existing prime farmland and is considered an agricultural support use upon issuance of a Use Permit. So long as proper mitigation measures are adopted and approved, the Project would play a key role in reducing the consumption of non-renewable energy in the County and in California. Solar developments in Yolo County, such as the proposed Project, could contribute to a beneficial cumulative impact to reduce greenhouse gases.

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

LESS THAN SIGNIFICANT IMPACT. As indicated throughout this Initial Study, substantial adverse effects are not expected to occur as a result of Project construction, operation, or decommissioning. The proposed Project's impacts on the environment included areas identified as having "no impact," "less than significant impact," and "less than significant with mitigation incorporated." Mitigation measures have been imposed to reduce all potential impacts to a less-than-significant level. However, based on the information provided in this Initial Study, the Project would not have any environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

Mandatory Findings of Significance Impact Conclusions

No potentially significant adverse impacts are identified or anticipated. With the implementation of MMs BIO-1, CUL-1, CUL-2, and CUL-3, all impacts would be reduced to less than significant with mitigation incorporated.

6. Mitigation Monitoring and Reporting Plan

6.1 Introduction

This mitigation monitoring and reporting program summarizes identified mitigation measures, implementation schedule, and responsible parties for the Bayer Woodland Solar Farm (the Project). Yolo County will use this mitigation monitoring and reporting program to ensure that identified mitigation measures, adopted as conditions of Project approval, are implemented appropriately. This monitoring program meets the requirements of CEQA Guidelines Section 15074(d), which mandates preparation of monitoring provisions for the implementation of mitigation assigned as part of project approval or adoption.

6.2 Mitigation Implementation and Monitoring

Yolo County will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the Project. While Yolo County has ultimate responsibility for ensuring implementation, others may be assigned the responsibility of actually implementing the mitigation. Yolo County will retain the primary responsibility for ensuring that the Project meets the requirements of this mitigation plan and other permit conditions imposed by participating regulatory agencies.

Yolo County will designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during Project construction. The designated personnel will be responsible for submitting documentation and reports to Yolo County on a schedule consistent with the mitigation measure and in a manner necessary for demonstrating compliance with mitigation requirements. Yolo County will ensure that the designated personnel have authority to require implementation of mitigation requirements and will be capable of terminating Project construction activities found to be inconsistent with mitigation objectives or Project approval conditions.

In addition to the prescribed mitigation measures, Table 6.1-1 (Mitigation Monitoring and Reporting Plan) lists each identified environmental resource being affected, the corresponding monitoring and reporting require-ment, and the party responsible for ensuring implementation of the mitigation measure and monitoring effort.

6.3 Mitigation Enforcement

Yolo County will be responsible for enforcing mitigation measures. If alternative measures are identified that would be equally effective in mitigating the identified impacts, implementation of these alternative measures will not occur until agreed upon by Yolo County.

Table 6.1-1 Mitigation Monitoring and Reporting Plan – Bayer Woodland Solar Farm, Use Permit ZF#2020-0036

Mitigation Number	Mitigation Measure	Enforcement and Monitoring Responsibility	Timing/Implementation	Verification (Date and Initials)
County Imposed Mitigation Measures				
Air Quality				
MM AQ-1	**Fugitive Dust Control.** A water truck(s) will be used for dust control purposes. Water will be the primary means of dust control and suppression, but dust palliatives may also be used as needed. Active construction sites will be watered at least two times daily to comply with the District rule to reduce particulate matter concentration. All vehicles traveling over unpaved, including graveled, areas shall travel at speeds at or below 15 miles per hour. Signs identifying the maximum speed limit shall be placed at all site entrances during construction.	Yolo County Department of Community Services	Prior to initiation of construction/Measure included as a Condition of Approval.	
Biological Resources				
MM BIO-1	**Potential Disturbance to Active Swainson's hawk and White-tailed Kite Nests.** To avoid potential impacts to Swainson's hawk and white-tailed kite, construction/decommissioning should occur during the nonbreeding season, August 15 to March 15, unless it is determined that there is no active nest present. If construction/decommissioning is scheduled to occur during the breedin season, a qualified biologist shall conduct a preconstruction survey(s within 15 days prior to the beginning of the construction activity. Th biologist shall determine activity at potential nesting trees within a 1,320-foot radius area around the Project site. If active nests are found, a 1,320-foot non-disturbance buffer should be established around the nest to minimize disturbance. If project related activities within the temporary nest disturbance buffe (1,320-feet) are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a broodin position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foo	Yolo County Department of Community Services	Prior to initiation of construction, during construction/Measure included as a Condition of Approval.	

Table 6.1-1 Mitigation Monitoring and Reporting Plan – Bayer Woodland Solar Farm, Use Permit ZF#2020-0036

Mitigation Number	Mitigation Measure	Enforcement and Monitoring Responsibility	Timing/Implementation	Verification (Date and Initials)
	buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. The qualified biologist shall be experienced in identification and behav of Swainson's hawk and white-tailed kite, as well as typical courting and nesting behavior and suitable nest sites for both species A preconstruction report and monitoring reports, if applicable, will be submitted to CDFW within 30 days of the action.			
Cultural Resources /Tribal Cultural Resources				
MM CUL-1	**Worker Environmental Awareness Program.** Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist meeting federal criteria under 36 CFR 61 and a member of the Yocha Dehe Wintun Nation- regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Awareness Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.	Yolo County Department of Community Services	Prior to initiation of construction/Measure included as a Condition of Approval.	
MM CUL-2	**Inadvertent Discovery of Historical Resources, Unique Archaeological Resources or Tribal Cultural Resources.** If previously unidentified cultural resources are uncovered during construction activities, construction work within 50 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior-qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the County, the Yocha Dehe Wintun Nation, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the find(s) is found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA (PRC §21083.2), or is determined to be tribal cultural resource as defined in PRC §21074.	Yolo County Department of Community Services	During all ground disturbance activities throughout the project/ Measure included as a Condition of Approval	

Table 6.1-1 Mitigation Monitoring and Reporting Plan – Bayer Woodland Solar Farm, Use Permit ZF#2020-0036

Mitigation Number	Mitigation Measure	Enforcement and Monitoring Responsibility	Timing/Implementation	Verification (Date and Initials)
MM CUL-3	**Treatment of Human Remains.** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, because it could be a crime scene. The Coroner would determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions. After the Coroner has determined that the remains are archaeological/ historic-era, the Coroner would make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. The NAHC would immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours from the time given to access the site to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.	Yolo County Department of Community Services	During all ground disturbance activities throughout the project/ Measure included as a Condition of Approval.	

Appendix A

List of Preparers

Appendix A. List of Preparers

A consultant team headed by Aspen Environmental Group prepared this document under the direction of Yolo County. The preparers and technical reviewers of this document are presented below.

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Appendix B

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Appendix B. References

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Appendix C

Supplemental Biological Resources Assessment

Supplemental Biological Resources Assessment for the Bayer Woodland Solar Farm, Yolo County, California

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Introduction

Background

Bayer U.S., Crop Science is proposing to construct and operate a 2-megawatt (MW) photovoltaic ("PV") solar facility, the Bayer Woodland Solar Farm Project (Project) on 11 acres of farmland 0.25 mile west of the City of Woodland in Yolo County (Figure 1). Located immediately adjacent to the Bayer Woodland site facility, the Project would be designed to generate up to 70 percent of the electrical needs of the Bayer Woodland site operations. Excess electricity not used for site operations would be credited to Bayer through a Net Energy Metering (NEM) Program with Pacific Gas & Electric (PG&E). The excess electrical energy would benefit the community electrical grid and provide a carbon offset equal to the energy usage of approximately 1,626 houses.

The proposed Project is currently undergoing environmental review pursuant to the California Environmental Quality Act (CEQA) with Yolo County serving as the lead agency. This biological resource assessment is supplemental to the Biological Resources Technical Report (BRTR) prepared by Ascent Environmental (2020) This report was prepared consistent with the requirements of CEQA and is intended to be incorporated into the full CEQA assessment for the proposed Project.

Although the proposed Project is within the service area of the Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP), solar energy projects are not Covered Activities under the HCP/NCCP. Therefore, the Project is not subject to review by the Yolo Habitat Conservancy (the HCP/NCCP Implementing Entity), the payment of fees, or the application of Avoidance and Minimization Measures pursuant to the HCP/NCCP.

Location and Setting

The 11-acre Project site is located primarily on a 39-acre parcel (APN 025-470-028) along the south side of State Route 16 – the northern border of the Project – 0.25 miles west of County Road 98,the western city limit of the City of Woodland (Figure 2). A small portion of the Project, primarily ancillary support features, extend onto the Bayer Woodland facility on the adjacent parcel to the west. The general setting is primarily agricultural interspersed with industrial and rural residential land uses. Dense urbanization from the City of Woodland occurs east of County Road 98. The Project site and parcel consist entirely of cultivated fields. With the exception of the Bayer Woodland facility on the adjacent parcel to the west and a smaller industrial property immediately adjacent to the east, the immediately surrounding lands are also agricultural with nearby rural residential development.

Project Description

Construction and Operation

The proposed Project includes the installation of a solar array consisting of 80 rows of interconnected solar tracker modules with non-reflective panels to generate 2 MW of renewable

Figure 1
Regional Location of the Bayer Solar Project

Figure 2
Location of the Bayer Solar Project

electrical energy; a battery energy storage system (BESS) that would discharge stored energy during the evening peak power demand period when the solar generation drops off; and other ancillary support features such as inverters, transformers, and other electrical equipment. The PV modules would be mounted on single-axis tracking support structures arranged in a north-south configuration and rotate from east to west to track the sun's path throughout the day. The parallel array rows would be separated and spaced 12-14 feet apart (from panel edge to panel edge) to minimize inter-row shading of the sun. The galvanized steel support structures would be mounted on a foundation of steel beams directly embedded into the ground to a depth of five to eight feet depending on loading and soil conditions. A six-foot-tall chain-link security fence would be installed around the perimeter of the Project site. Refer to the Land Use Permit Pre-Application (Bayer U.S. Crop Science 2020) or the Initial Study for a detailed Project description including associated figures and site plan.

The Project has an estimated 20-year lifespan, at which time it would be decommissioned and all above and below-ground Project elements would be removed. Upon decommissioning, the site could be restored to agricultural uses or converted to other uses in accordance with applicable land use regulations in effect at that time.

Site Management

During the estimated 20-year life of the solar Project, a grassland substrate that includes pollinator plants would be planted between and beneath the rows of panels for aesthetic, pollinator habitat, and soil remediation purposes. Using the principals of agrivoltaics, the practice of agriculture in and around large-scale solar PV farms (Goetzberger and Zastrow, 1982; Dolezal et al. 2021), these plantings will aid in integrated pest and disease management and attract beneficial insects such as butterflies and bees. Deep root systems can also bring minerals and nutrients to the topsoil and over time improve soil tilth. The grass/pollinator plant substrate would be maintained periodically using sheep grazing or mechanical methods. The valley oak (*Quercus lobata*) and walnut (*Juglans* sp.) trees on the west side of the site would be retained to provide bird habitat. Flowering shrubs would be planted along State Route 16 on the north to provide screening.

Objectives

This biological resources assessment was prepared to supplement the Biological Resources Technical Report prepared by Ascent Environmental (2020) and to provide Yolo County with a summary of biological resources, including the occurrence or potential for occurrence of special-status species, within and near the 11-acre Project site; and to provide an assessment of potential biological resource impacts resulting from the installation of the proposed solar Project, along with recommendations to minimize or avoid significant impacts that can be referenced by or integrated into a CEQA document.

Regulatory Framework

Several state and federal laws and regulations are relevant to the proposed Project. Each is briefly described below.

California Environmental Quality Act

The CEQA requires that significant environmental impacts of proposed projects be reduced to a less-than-significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented.

During the CEQA review process, environmental impacts are assessed and a significance determination is provided based on pre-established thresholds of significance. Thresholds are established using guidance from CEQA, particularly Appendix G of the State CEQA guidelines and CEQA Section 15065 (Mandatory Findings of Significance). CEQA guidance is then refined or defined based on further direction from the lead agency.

Consistent with Appendix G of the State CEQA guidelines, a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in one or more of the following:

- Substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS);
    - A substantial adverse effect on a special-status wildlife species is typically defined as one that would:
        - Reduce the known distribution of a species,
        - Reduce the local or regional population of a species,
        - Increase predation of a species leading to population reduction,
        - Reduce habitat availability sufficient to affect potential reproduction, or
        - Reduce habitat availability sufficient to constrain the distribution of a species and not allow for natural changes in distributional patterns over time.
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or interference with the use of native wildlife nursery sites.
    - Substantial interference with resident wildlife movement is typically defined as obstructions that prevent or limit wildlife access to key habitats, such as water sources or foraging habitats, or obstructions that prohibit access through key movement corridors considered important for wildlife to meet needs for food, water, reproduction, and local dispersal.
    - Substantial interference with migratory wildlife movement is typically defined as obstructions that prevent or limit regional wildlife movement through the project area to meet requirements for migration, dispersal, and gene flow that exceed the defined baseline condition.

Consistent with CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has 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 an endangered, rare or threatened species.

CEQA defines the significance of an impact on a state-listed species based on the following:

- Appendix G of the State CEQA guidelines states that a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in "substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS"; and
- CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to "substantially reduce the number or restrict the range of an endangered, rare or threatened species".

State Endangered Species Act

The California Endangered Species Act (CESA) prohibits take of wildlife listed as threatened or endangered by the California Fish and Game Commission. *Take* is defined under the California Fish and Game Code as any action or attempt to "hunt, pursue, catch, capture, or kill." Like the ESA, CESA allows exceptions to the take prohibition for take that occurs during otherwise lawful activities. The requirements of an application for incidental take under CESA are described in Section 2081 of the California Fish and Game Code. Incidental take of state-listed species may be authorized if an applicant submits an approved plan that minimizes and "fully mitigates" the impacts of the take.

California Fish and Game Code

California Fully Protected Species. In the 1960s, before CESA was enacted, the California State Legislature identified species for specific protection under the California Fish and Game Code. These "fully protected" species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Fully protected bird species are described in Section 3511 of the California Fish and Game Code. These protections state that "…no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected [bird], [mammal], [reptile or amphibian], [fish]."

California Fish and Game Code 3503 (Bird Nests). Section 3503 of the Fish and Game Code makes it unlawful to take, possess or needlessly destroy the nests or eggs of any bird. The California Department of Fish and Wildlife may issue permits authorizing take.

California Fish and Game Code 3503.5 (Birds of Prey). Section 3503.5 of the Fish and Game Code prohibits the take, possession, or destruction of any birds of prey or their nests or eggs. CDFW may issue permits authorizing take.

Yolo County General Plan

The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources and agricultural lands that provide wildlife habitat. Those most relevant to the proposed Project include the following:

- **Policy AG-1.5** Strongly discourage the conversion of agricultural land for other uses. No lands shall be considered for re-designation from Agricultural or Open Space to another land use designation unless all of the following findings can be made:
    A. There is a public need or net community benefit derived from the conversion of the land that outweighs the need to protect the land for long-term agricultural use.
    B. There are no feasible alternative locations for the proposed project that are either designated for non-agricultural land uses or are less productive agricultural lands.
    C. The use would not have a significant adverse effect on existing or potential agricultural activities on surrounding lands designated Agriculture.
- **Policy AG-1.6** Continue to mitigate at a ratio of no less than 1:1 the conversion of farm land and/or the conversion of land designated or zoned for agriculture, to other uses.
- **Policy CO-2.1** Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.
- **Policy CO-2.3** Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.
- **Policy CO-2.38** Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds).
- **Policy CO-2.41** Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.

Methods

Pre-Survey Investigation

Prior to conducting the site visit, available information regarding biological resources on or near the Project site was gathered and reviewed. Sources included:

- California Natural Diversity Data Base (CNDDB 2020)
- Yolo County General Plan (Yolo County 2009)

- Yolo County HCP/NCCP (ICF 2018; www.yolohabitatconservancy.org/)
- eBird (online database of bird observations) (https://ebird.org/home)
- Tricolored blackbird portal (https://tricolor.ice.ucdavis.edu/)
- Calflora (https://www.calflora.org/)
- Distribution, Abundance, and Habitat Associations of the Swainson's Hawkin Yolo County (Estep 2020)
- Biological Resources Technical Report for the Bayer SolarFarm (Ascent Environmental 2020)
- Other local research, surveys, and environmental documents

Aerial photographs and land use/vegetation maps of the Project site and surrounding area were also reviewed.

Field Survey and Assessment

A field survey and site assessment were conducted on November 12, 2021 from approximately 1000 hours to 1400 hours. The survey was conducted by walking the perimeter of the Project and documenting land cover, natural communities, and plant and wildlife occurrences. The survey also extended approximately 0.25 miles from the Project boundary to determine the presence of special-status species and other natural communities or wildlife habitats that could be potentially indirectly impacted by the Project. Land uses, natural communities, and wildlife habitats were inspected, mapped, and photographed; wildlife species occurrences were recorded using binoculars and spotting scope, and occurrences and potential habitat for each special-status species was documented.

The survey was conducted to supplement the survey conducted on September 9, 2020 during the initial biological resource assessment of the Project (Ascent Environmental 2020).

Results

General Characteristics

Physiography

Located within the interior agricultural region of central Yolo County, the Project site and surrounding landscape is generally flat, with elevation in the immediate vicinity ranging from 74 to 78 feet above mean sea level and with an imperceptible elevational decrease from west to east. Other than a narrow drainage channel extending along the northern boundary of the site, there are no discernable topographic features. The climate in the vicinity of the Project site is mild with average annual maximum temperature of 74.6 degrees Fahrenheit and an average annual minimum temperature of 47.6 degrees Fahrenheit, with winter rains and dry summers, and an average annual rainfall of approximately 20 inches.

Land Use

The Project site consists of a single 11-acre field that has historically been cultivated and used for production of hay, grain, and row crops. Plowed, bedded, and consisting of seedling herbaceous vegetation during the survey, the field appears to have been unplanted in 2021 (Plate 1). This is consistent with the results from the 2020 survey (Ascent Environmental 2020). The field is classified as A-N (Agricultural Intensive) Prime Farmland by Yolo County; however, the reported contamination level of the soil-borne fungi Fusarium (*Fusarium* spp.) appears to have resulted in limited production and the decision to rest the field.

There is a narrow drainage ditch along the northern boundary of the Project site paralleling State Route 16 that appears to function as a stormwater runoff ditch, and a row of walnut and valley oak trees bordering the western boundary (Plates 2 and 3). The small portion of the Project that includes underground electrical lines leading to the approximately 25 feet by 15 feet BESS battery storage site is on the adjacent Bayer Woodland site facility, which is entirely developed (Figure 3).

Neighboring lands include other cultivated fields to the south, east, northeast, and northwest, a small industrial site adjacent to the northeast corner along the south side of State Route 16, rural residential to the north and northwest, and industrial development to the west, including the adjacent Bayer Woodland site facility (Figure 4).

Plate 1. Project site showing the weedy, herbaceous vegetation growing in the idle field, which has been plowed and bedded, but not planted for at least the last 2 years.

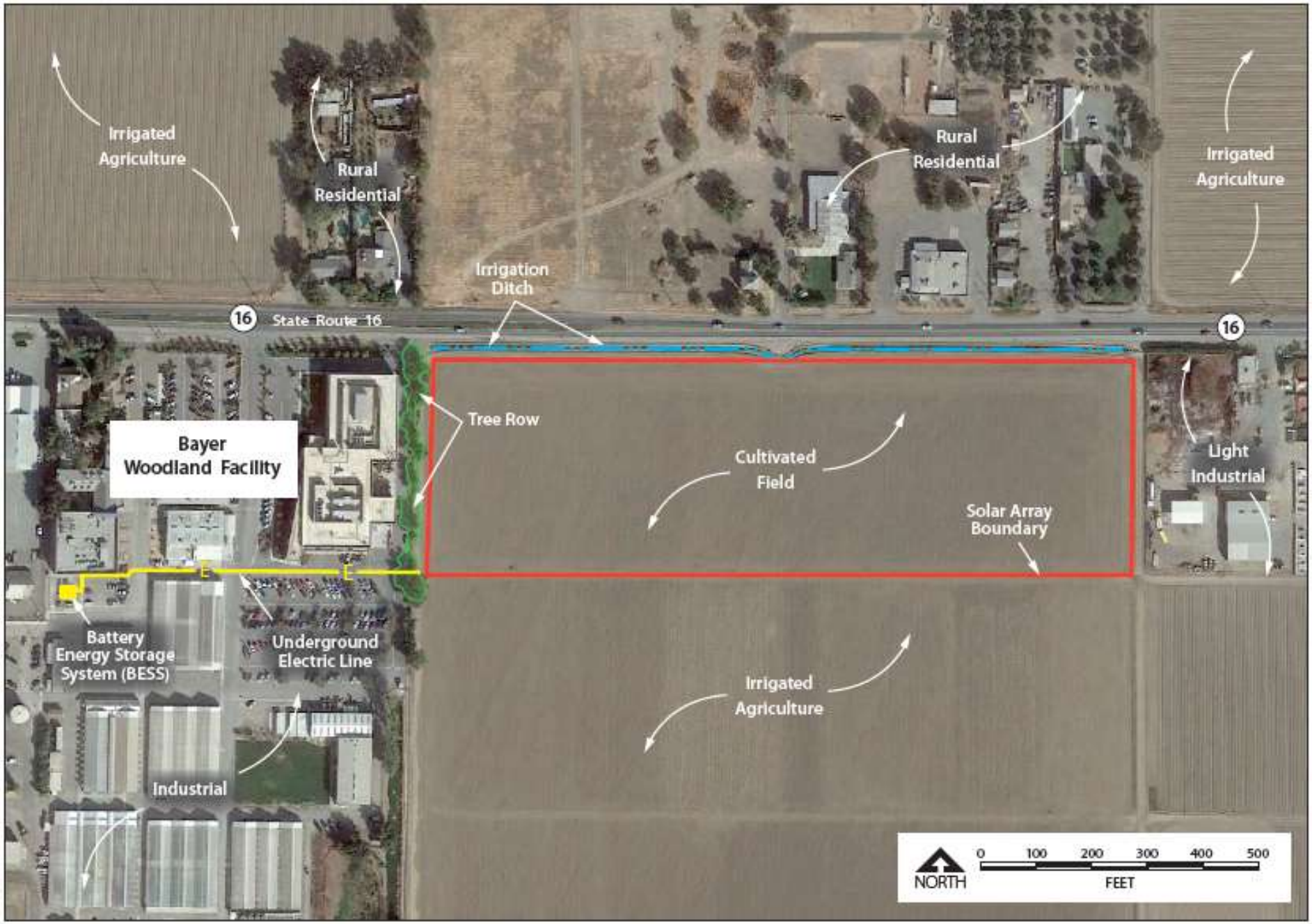

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Figure 3

Land Use on the Bayer Solar Project

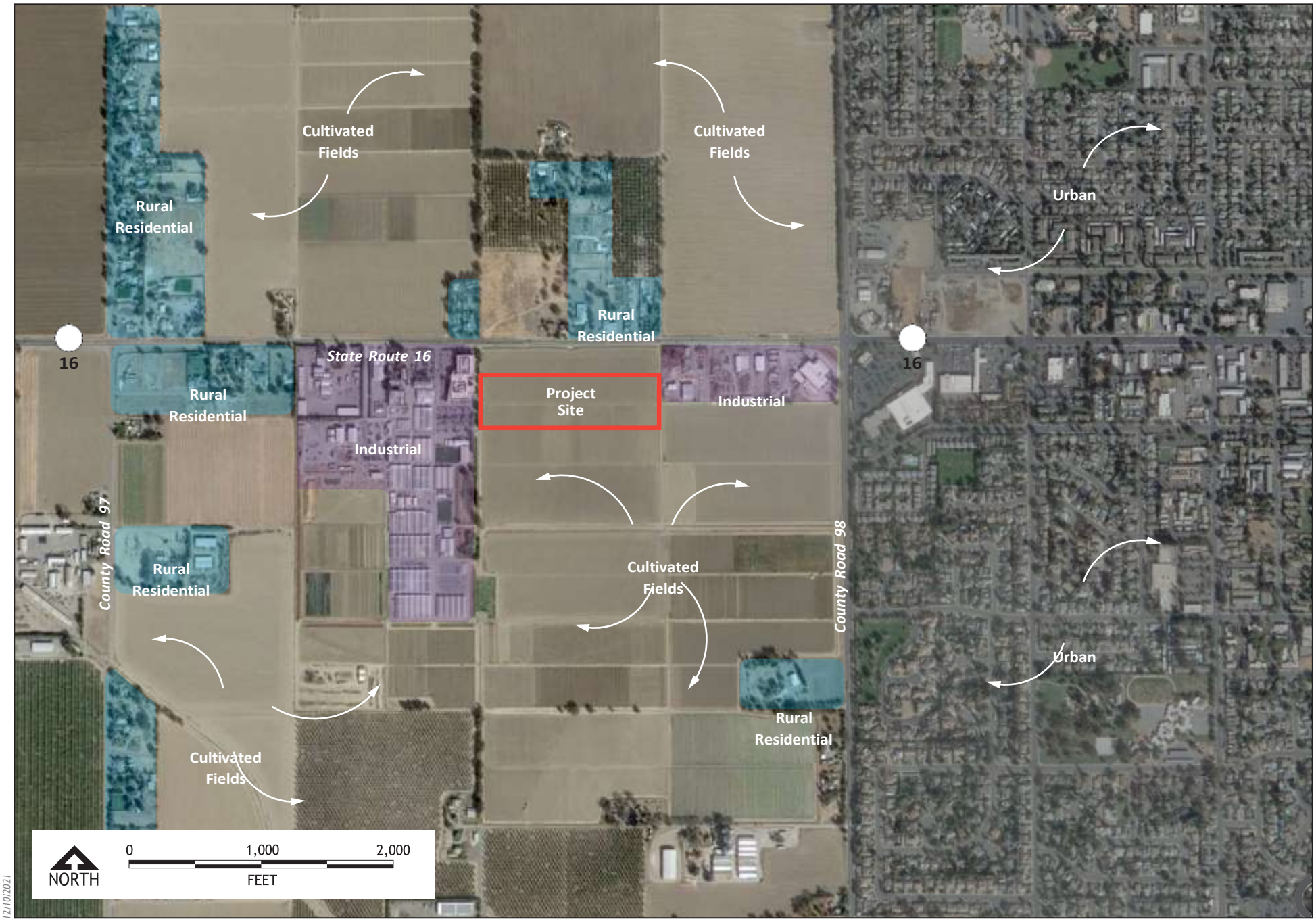


Figure 4
Land Use surrounding the Bayer Solar Project

Plate 2. Looking northwest from the south side of the Project field showing the walnut and valley oak tree row along the western edge of the Project site. Several of these trees are capable of supporting raptor nests. The Bayer Woodland facility is in the background.

Plate 3. Looking east along the northern border of the Project site and State Route 16. The drainage ditch is the dark band paralleling the road and which was recently cleared prior to the survey and supported no vegetation.

Biological Communities

Biological communities on and immediately adjacent to the Project site consist entirely of irrigated agriculture (i.e., cultivated fields) and the narrow perimeter edges considered incidental to agriculture including the narrow water conveyance ditch along the northern boundary, dirt field borders and access roads, and the tree row along the western border. Adjacent and surrounding lands are also cultivated farmland, developed, or rural residential. There are no sensitive biological communities or unique wildlife habitats on or immediately adjacent to the Project site. There are no wetlands or non-wetland waters subject to regulation by state or federal agencies present on or immediately adjacent to the Project site.

Irrigated Agriculture

Other than the small portion of the Project that extends onto the Bayer Woodland Facility, the entire Project area consists of irrigated agriculture (Figure 3). However, the field has been idled for at least the past two years due the presence of the soil-borne fungus Fusarium. During the survey (and consistent with the 2020 survey), the field was plowed, bedded, and supported only weedy, herbaceous vegetation (Plate 1).

Although supporting a relatively low diversity of wildlife use, cultivated fields are essential habitat for species that have adapted to agricultural landscapes in the Central Valley. These fields support small rodent and insect populations, which in turn provide foraging habitat for several local raptor species, including red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), American kestrel (*Falco sparverius*), and great-horned owl (*Bubo virginianus*), as well as a variety of other birds and mammals. The Project field appears to have been most recently farmed in the tomato-wheat rotation typical of this part of Yolo County, and which supports abundant and accessible rodent prey for raptors, particularly during the harvest and post-harvest periods.

Incidental to Agriculture

Field access roads and ruderal edges occur around the perimeter of the Project. Temporary irrigation ditches may also be installed seasonally around the field; however, none were present during the survey. These are not cultivated areas but are considered incidental to agricultural operations and used primarily for access and irrigation water conveyance. There are no permanent irrigation or other water conveyance canals within or bordering the Project site, and no aquatic or wetland habitats on the Project site.

There is a drainage ditch along the northern boundary extending along State Route 16 the length of the Project site. Culverted at the eastern and western ends of the Project site, this ditch appears to function as a stormwater runoff conveyance. Temporary irrigation ditches may also be installed seasonally around the field; however, none were present during the survey.

Plate 4. Looking north along the western border field edge. While the field is not in production, this area serves only as a farm access road. Depending on the crop type, an irrigation ditch may be cut along the edge of the field and remain until the crop is harvested.

Plate 5. Looking north along the eastern Project boundary. This field edge consists of a farm access road and a strip of herbaceous, weedy vegetation that probably represents the location of a seasonal irrigation ditch.

Tree rows, Groves, and Isolated Trees

There are no trees, shrubs, or other vegetation on the Project site; however, there is a row of walnut and valley oak trees along the western border on the west side of the farm access road (Plate 2) and extending approximately 170 feet south of the southwest corner of the Project site. Several of these, including five valley oak trees and two walnut trees, are mature trees and capable of supporting raptor nests or nest sites for other birds. A row of 20- to 30-foot cottonwood (*Populus fremontii*) trees occurs 200 feet south of the southwest corner (See Below). There are also several other tree rows, small tree groves, isolated trees, and trees around rural residences in the vicinity of the Project site (Figure 3).

Wetlands and Other Waters

There are no seasonal or permanent wetlands or other waters, including streams, ponds, or seasonal or permanent marshes on or immediately adjacent to the Project site. Irrigation canals and ditches may support wetland values and function, particularly along permanent canals with frequent flows and where wetland vegetation has developed. However, there are no canals or ditches on or immediately adjacent to the Project site that meet this condition. The roadside ditch on the northern boundary of the Project site along State Route 16 supports ephemeral flows in the form of stormwater runoff and supports only nonnative weedy vegetation including Italian rye grass (*Festuca perennis*) and flax-leaved horseweed (*Erigeron bonariensis*). Although semi-permanent, the roadside ditch would not be subject to regulation by the U.S. Army Corps of Engineers (USACE) as waters of the United States or under state Regional Water Quality Control Board (RWQCB) jurisdiction as waters of the state. Ditches are considered to be within federal jurisdiction only if they have intermittent or perennial flow and were either constructed in or relocated in a natural tributary or were constructed in an adjacent wetland and contribute perennial or intermittent flow to a traditionally navigable water in a typical year. In addition, ditches with ephemeral flow that are not a relocated water of the state or excavated in a water of the state are excluded as waters of the state. As a result, there are no regulated waters on or immediately adjacent to the Project site.

Seed processing operations at the adjacent Bayer facility requires water and an onsite wastewater discharge site. This site, the nearest aquatic feature to the Project site, is located along the east central edge of the facility. Water is discharged from the facility into a canal approximately 250 feet south of the southwest corner of the Project site. The canal, which includes aerators spaced approximately 50-feet apart, is approximately 20-feet-wide and extends southward for approximately 650 feet. A row of sixteen 20- to 30-foot-high cottonwood trees occurs along the west side of the canal, which is otherwise sparsely vegetated. At its approximate mid-point, water from the canal is diverted into a percolation pond. The pond is approximately 400-feet by 140-feet with several cottonwood trees around its perimeter and a small patch of cattail (*Typha latifolia*) at its northern end. Other vegetation consists of a variety of nonnative agricultural weeds. At the canal's southern terminus, remaining water is diverted into a smaller percolation

pond, approximately 220-feet by 170-feet, which contains a dense patch of cottonwood and willow (*Salix* sp.) trees (Figure 3).

Wildlife Use

Few wildlife species were detected within the cultivated field and adjacent habitats during the field survey. Burrowing mammals and other small mammals ubiquitous to cultivated lands in the Sacramento Valley may occur within the field and along the field edges, including meadow vole (*Microtus californicus*), house mouse (*Mus musculus*), pocket gopher (*Thomomys bottae*), black-tailed jackrabbit (*Lepus californicus*), and California ground squirrel (*Otospermophilus beecheyi*). The presence of these species attracts raptors and other predators found commonly in the cultivated habitats of Yolo County, including red-tailed hawk, Swainson's hawk, American kestrel, and coyote (*Canis latrans*).

The plowed field and field edges may also receive occasional use by other common birds, including great blue heron (*Ardea Herodias*), turkey vulture *Cathartes aura*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), Scrub jay (*Aphelocoma californica*), and house finch (*Haemorhous mexicanus*). However, with sparse weedy vegetation in the cultivated field and along the field edges at the time of the field survey, the Project site supported marginal habitat conditions and low diversity and abundance of wildlife.

Special-status Species

Special-status species are generally defined as species that are assigned a status designation indicating possible risk to the species. These designations are assigned by state and federal resource agencies (e.g., CDFW, USFWS) or by private research or conservation groups (e.g., National Audubon Society, California Native Plant Society). Assignment to a special-status designation is usually done on the basis of a declining or potentially declining population, either locally, regionally, or nationally. The extent to which a species or population is at risk usually determines the status designation. The factors that determine risk to a species or population generally fall into one of several categories, such as habitat loss or modification affecting the distribution and abundance of a species; environmental contaminants affecting the reproductive potential of a species; or a variety of mortality factors such as hunting or fishing, interference with man-made objects (e.g., collision, electrocution, etc.), invasive species, or toxins. For purposes of this biological resource assessment, special- status species are defined as follows:

- Species that are listed, proposed, or candidates for listing under the Federal Endangered Species Act (50 CFR 17.11 – listed; 61 FR 7591, February 28, 1996 - candidates);
- Species that are listed or proposed for listing under the California Endangered Species Act (Fish and Game Code 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.);

- Species that are designated as Species of Special Concern by CDFW;
- Species that are designated as Fully Protected by CDFW (Fish and Game Code, Section 3511, 4700, 5050, and 5515;
- Species included on Lists 1B or 2 by the CNPS;
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380).

A records search of CDFW's California Natural Diversity Data Base (CNDDB), and other sources of occurrence data (e.g., eBird, Tricolored Blackbird Portal, other survey efforts) provide the initial reference for special-status species occurrences on and around the Project site. However, a CNDDB records search encompasses a much larger area than the Project site and does not address the presence/absence of suitable habitat within the Project site. Instead, it is used as initial guidance to indicate the species that have been observed or have the potential to occur within the general area of the Project site and to focus the next step in the assessment on habitat availability. Potential for species to occur is then based on the presence/absence of suitable habitat on or in the vicinity of the Project site. Finally, specific surveys within suitable habitat determines the actual presence/absence of potentially occurring species.

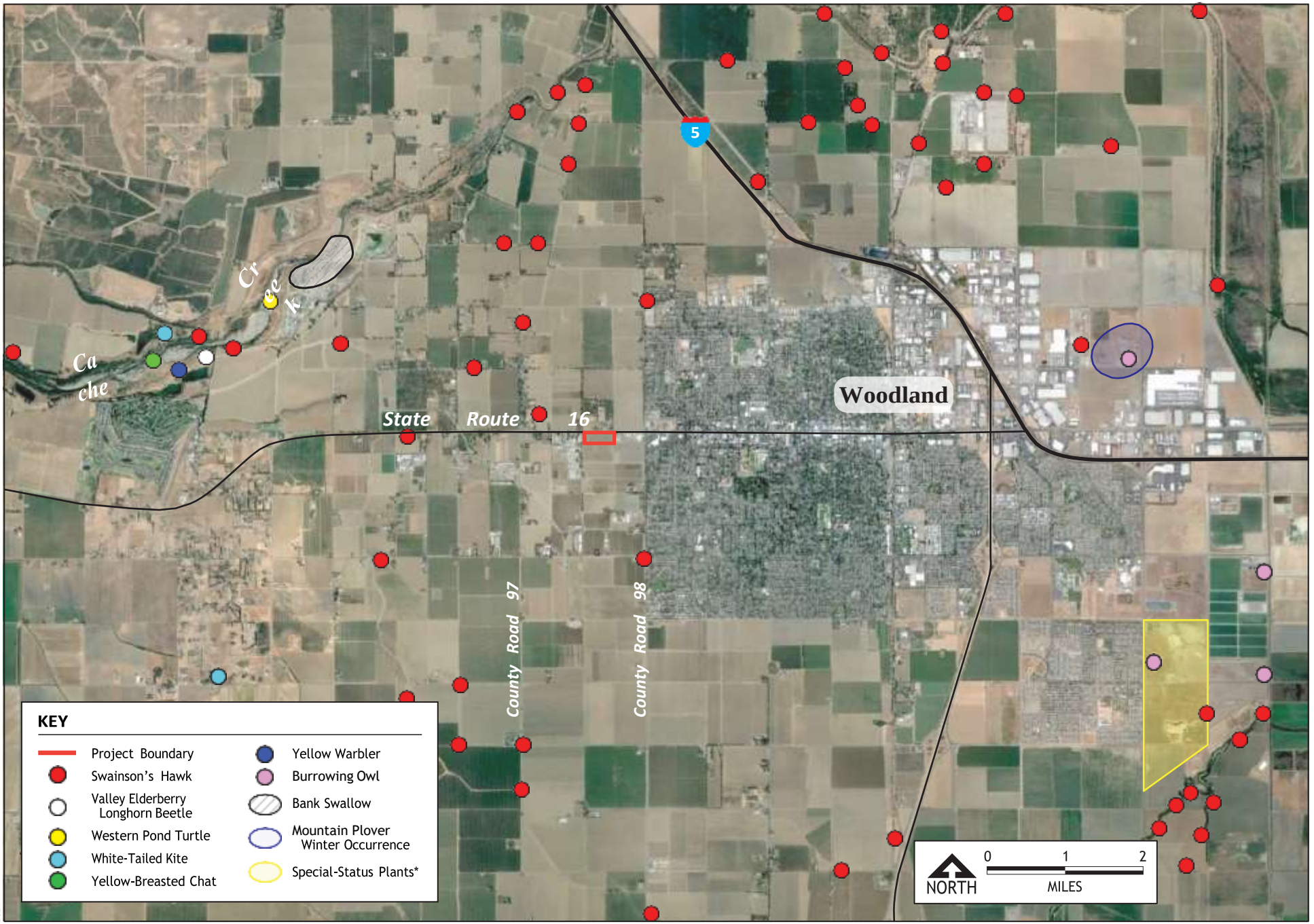
Table 1 lists the special-status species with potential to occur in the vicinity of the Project site based on existing information about their local and regional distribution and species lists provided by CNDDB and other sources. The table also describes habitat associations; the presence/absence of suitable habitat; and whether or not the species has been reported from the Project site or observed during the field survey. Figure 5 illustrates the location of reported special-status species occurrences in the vicinity of the Project site for each potentially occurring species. Each species in Table 1 with potential to occur on or adjacent to the Project site is described in more detail below including habitat associations, the presence/absence of suitable habitat, and reported occurrences from existing records and this survey.

Table 1. Special-status species with potential to occur in the vicinity of the Bayer Solar Energy Farm Project site, Yolo County. Green highlighted species are those with potential to occur on the Project site.

Species	Status State/ Federal	Habitat Association	Habitat Present on or Adjacent to the Project site	Observed Onsite	Reported Occurrence on the Project site
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	-/T	Elderberry shrubs	No	No	No
Vernal pool fairy shrimp *Branchinecta lynchi*	-/T	Vernal pools	No	No	No
Vernal pool tadpole shrimp *Lepidurus packardi*	-/E	Vernal pools	No	No	No
Western pond turtle *Actinemys marmorata*	CSC/-	Streams, ponds, canals	No	No	No
Giant garter snake *Thamnophis gigas*	E/E	Emergent wetland, canals, rice fields	No	No	No
Northern harrier *Circus hudsonius*	CSC/-	Grasslands, pastures, fields, seasonal wetland	Yes	No	No
White-tailed kite *Elanus leucurus*	FP/-	Nests in trees, hunts in grassland/farmland/wetland	Yes	No	No
Swainson's hawk *Buteo swainsoni*	T/-	Nests in trees, hunts in grassland and farmlands	Yes	No	No

Mountain plover *Charadrius montanus*	CSC/-	Winter range – grasslands, plowed fields	Yes (winter)	No	No
Burrowing owl *Athene cunicularia*	CSC/-	Grasslands, field edges with ground squirrel activity	Yes	No	No
Short-eared owl *Asio flammeus*	CSC/-	Grasslands, prairies, marshes	No	No	No
Bank swallow *Riparia riparia*	T/-	Vertical cut banks along streams	No	No	No
Loggerhead shrike *Lanius ludovicianus*	CSC/-	Grasslands, agricultural areas	Yes	No	No
Yellow-breasted chat *Icteria virens*	CSC/-	Riparian thickets with willow near waterways for nesting.	No	No	No
Yellow warbler *Setophaga petechia brewsteri*	CSC/-	Riparian forests, montane shrub in open conifer forests.	No	No	No
Grasshopper sparrow *Ammodramus savannarum*	CSC/-	Grasslands	No	No	No
Tricolored blackbird *Agelaius tricolor*	T/-	Marsh, bramble, silage, grassland, pastures	Yes (foraging)	No	No
Palid bat *Antrozous pallidus*	CSC/-	Grasslands, shrub lands, woodlands.	Yes (foraging)	No	No
Townsends big-eared bat *Corynorhinus townsendii*	CSC/-	Caves, bridges, buildings	Yes (foraging)	No	No
Western red bat *Lasiurus blossevillii*	CSC/-	Riparian woodland, fruit orchards	Yes (foraging)	No	No
Baker's navarretia *Navarretia leucocephala*	1B/-	Vernal pools	No	No	No
Round-leaved filaree *Erodium macrophyllum*	2/-	Grasslands	No	No	No
Adobe lily *Fritillaria pluriflora*	1B/-	Grasslands	No	No	No
Brewer's western flax *Hesperolinon breweri*	1B/-	Grasslands	No	No	No
Heckard's pepper-grass *Lepidium latipes v. heckardii*	1B/-	Alkali grasslands	No	No	No
Heartscale *Atriplex cordulata v. cordulata*	1B/-	Alkali grasslands	No	No	No
California alkali grass *Puccinellia simplex*	1B/-	Alkali grasslands	No	No	No
Alkali milkvetch *Astragalus tener var. tener*	1B/-	Alkali grasslands	No	No	No
Ferris' milk-vetch *Astragalus tener v. ferrisiae*	1B/-	Alkali grasslands	No	No	No
Brittlescale *Atriplex depressa*	1B/-	Alkali grasslands	No	No	No
San Joaquin spearscale *Extriplex joaquinana*	1B/-	Alkali grasslands	No	No	No
Palmate-bracted bird's beak *Chloropyron palmatum*	1B-E/E	Alkali grasslands	No	No	No
Saline clover *Trifolium hydrophilum*	1B/-	Alkali grasslands	No	No	No
Colusa layia *Layia septentrionalis*	1B/-	Foothill woodland, chaparral, grassland	No	No	No
Keck's checkerbloom *Sidalcea keckii*	1B/-	Foothill woodland, grassland	No	No	No

T=threatened; E=Endangered; CSC=California species of species concern; FP=state fully protected; 1B and 2 =CNPS rare plant ranks;



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SOURCES: CNDDB 2020; eBIRD; Estep 2020; Tompkins 2017.

****NOTE:*** *Special-Status Plants include Palmate-Bracted Bird's Beak; Brittlescale; San Joaquin Spearscale; and Heckard's Peppergrass.*

Figure 5
Special-Status Species Occurrences in the Vicinity of the Bayer Solar Project

Northern harrier

The northern harrier is a state species of special concern that nests on the ground in grassland, seasonal marsh, and occasionally in some cultivated habitats. The species is frequently observed throughout most of Yolo County; however, there are relatively few reported nest sites due to the difficulty confirming the location of ground nests. CNDDB (2020) reports very few nest sites, and none from the vicinity of the Project site. However, there are undoubtedly additional nesting territories in the general vicinity of the Project site. eBird reports numerous occurrences of the species in the vicinity of the Project site but does not report confirmed breeding sites. The Project site supports suitable cultivated foraging habitat for northern harrier, but potential nesting is dependent on the agricultural cover type in any given year.

Swainson's Hawk

The Swainson's hawk is a medium-sized raptor associated with generally flat, open landscapes. In the Central Valley it nests in mature native and nonnative trees and forages in grassland and agricultural habitats. Although a state-threatened species, the Swainson's hawk is common in Yolo County during the spring-summer breeding season due to the availability of nest trees and the agricultural crop patterns that are compatible with Swainson's hawk foraging. During a County-wide census in 2020, nearly 400 active nests sites were identified in Yolo County (Estep 2020), 59 of which are within 5 miles of the Project site, and the nearest of which is approximately 0.4 mile northwest of the Project site (Figure 5).

The tree row bordering the western boundary of the Project site supports seven walnut and valley oak trees suitable for nesting. There are also 4 suitable cottonwood trees approximately 0.25 miles south of the southwest corner of the Project site and numerous suitable nest trees along tree rows and at rural residences within 0.25 miles north of the Project site. The Project site also supports suitable cultivated foraging habitat for Swainson's hawks.

White-tailed kite

The white-tailed kite, a state fully protected species is a highly specialized and distinctively-marked raptor associated with open grassland and seasonal wetland landscapes. It typically nests in riparian forests, woodlands, woodlots, and occasionally in isolated trees (primarily willow, valley oak, cottonwood, and walnut) and some nonnative trees. It forages in grassland, seasonal wetland, and agricultural lands, but is more limited in its use of cultivated habitats compared with the Swainson's hawk. As a result, the species occurs throughout most of Yolo County, but in low breeding densities (Dunk 1995, Erichsen 1995, Estep 2020).

No white-tailed kites were detected during the survey and no nests have been reported from the immediate vicinity of the Project site. The nearest recently reported nest is approximately 5.5 miles southeast of the Project site along Willow Slough (Estep 2020) (Figure 5). Cache Creek Conservancy reports white-tailed kites on the Cache Creek Preserve during the breeding season (Cache Creek Preserve 2016) and eBird reports numerous breeding season occurrences in the area, including near Esparto, south of Madison, and several 2020 occurrences along Cache Creek (Figure 5). The trees identified above for Swainson's hawk are also suitable nest trees for white-

tailed kite. The cultivated fields on the Project site represent suitable foraging habitat for this species.

Mountain Plover

The mountain plover (*Charadrius montanus*), a state species of special concern, was formerly an occasional winter visitor to a specific area of Yolo County but reported occurrences have declined sharply in at least the last decade. The species arrives on its wintering grounds in California from November through December where it remains through March. During winter, the species roosts and forages in short grass prairies, pastureland, grazed grasslands, and occasionally – as with most of the reported occurrences in Yolo County – in disked agricultural fields (Manolis and Tangren 1975, Hunting et al. 2001, Hunting and Edson 2008). Small flocks had been observed in recently-plowed agricultural fields near Woodland and Davis, especially along County Roads 16, 25, 27, and 102 and in unflooded portions of the Yolo Bypass. CNDDB (2020) reports no occurrences in the vicinity of the Project site; however, eBird reports several sightings from 2000 in the Dunnigan Hills and Hungry Valley, northwest of the Project site (Figure 5). Mountain plover occurrence in cultivated fields is incidental and dependent on the condition of the field. All reported occurrences have been in plowed or prepared fields that are not planted and have virtually no vegetation. Although none were detected during the survey, the Project site could potentially support incidental winter occurrences of mountain plover.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia*), a state species of special concern, occurs in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots and remnant grassland or ruderal habitats within urbanizing areas. Historically nesting in larger colonies, due to limited nesting habitat availability, most of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs. The burrowing owl is a subterranean-nesting species, typically occupying the burrows created by California ground squirrels. They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and some agricultural habitats with low vegetative height. Key to burrowing owl occupancy are grassland or ruderal conditions that maintain very short vegetative height around potential nesting burrows (Gervais et al. 2008).

In Yolo County, burrowing owls occur mainly in the grassland and pasture habitats of the southern panhandle and in cultivated and ruderal habitats in the Davis area. Nesting and wintering occurrences have also been reported from the area immediately north of Winters, in the Dunnigan Hills, and elsewhere in the grassland foothills along the west side of the valley. Neither CNDDB nor eBird report any breeding or wintering occurrences on or in the immediate vicinity of the Project site. The cultivated field on the Project site supports marginal foraging habitat for burrowing owls. The only potential for occurrence is along the field edges; however, no evidence of ground squirrel use or other potential burrowing habitat was detected during surveys.

Loggerhead Shrike

The loggerhead shrike occurs in open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents, reptiles, and insects in pastures and agricultural lands (Humple 2008). An underreported species in CNDDB, no records are available for Yolo County (CNDDB 2020). However, eBird reports numerous incidental records throughout Yolo County, including the vicinity of the Project site. The grassland and oak savannah foothills along the western edge of the valley are thought to be the highest value habitat for this species; but some cultivated landscapes may also provide suitable conditions for nesting and foraging.

No loggerhead shrikes were detected during surveys and no nests have been reported from the Project site or immediate vicinity (CNDDB 2020, eBird 2021). Potential nesting habitat occurs in the tree row along the western border of the Project site. The cultivated field represents suitable, although marginal, foraging habitat.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state-listed threatened species that nests in colonies from several dozen to several thousand breeding pairs. They have three basic requirements for selecting their breeding colony sites: open accessible water; a protected nesting substrate, including either flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Beedy and Hamilton 1999). Nesting colonies are found in freshwater emergent marshes, in willows, blackberry bramble, thistles, or nettles, and in silage and grain fields (Beedy and Hamilton 1999).

Most recently reported tricolored blackbird colonies in Yolo County occur in the eastern part of the county, including Conaway Ranch and at locations in the Yolo Bypass, and along the western edge of the valley (CNDDB 2020, Tricolored Blackbird Portal); however, eBird reports numerous incidental non-breeding or foraging occurrences throughout the interior of the county. CNDDB also reports historic breeding locations that have long since been abandoned or the breeding habitat no longer exists. Although the cultivated field on the Project site may provide incidental foraging habitat, there is no breeding habitat for tricolored blackbirds on or in the vicinity of the Project site.

Special-status Bats

Three special status bats potentially occur incidentally in the vicinity of the Project site, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), and western red bat (*Lasiurus blossevillii*), all state species of special concern. Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can forage in grasslands and agricultural areas. Townsends's big-eared bat occurs in a variety of woodland and open habitats, including agricultural areas. Western red bat occurs in wooded habitats, including riparian and fruit orchards, and grasslands. Pallid bat and Townsend's big-eared bat roost in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings

that are usually abandoned or infrequently inhabited. Western red bat usually roosts in large trees (Pierson and Rainey 1998, Pierson 1998, Fellers and Pierson 2002, Pierson et al. 2006).

Most reported occurrences are from the foothills and higher elevation areas of western Yolo County; however, CNDDB (2020) reports a red bat occurrence from the confluence of Dry Creek and Putah Creek in 2013. There are no suitable trees or other potential roosting habitat for these species on or in the vicinity of the Project site. The nearest marginally suitable roosting habitat for red bat is along Cache Creek north of the Project site or in mature orchards in the area. Although the agricultural landscape is not generally considered suitable habitat for these species, they could potentially hunt for insects above the Project site.

Special-status Plants

Table 1 lists 15 special-status plants known to occur in Yolo County. Calflora reports occurrences of these species from the general area; however, none have been reported from the Projectsite or surrounding area. These species are associated with foothill grassland, woodland, alkali grassland, and vernal pool habitats, none of which occur on or in the immediate vicinity of the Project site.

Impacts of the Proposed Project

Biological Communities

The Project site does not support and thus the Project would not remove or disturb any sensitive natural communities. The Project would convert 11 acres of cultivated field to a solar array with a managed grass substrate and planted with pollinator plants. The existing cultivated field is typically planted with row or grain crops, which are harvested in mid-to-late summer. Following harvest, the fields are disked and typically remain devoid of vegetation until the next planting. Although providing periodic habitat value to agriculture-associated wildlife, overall habitat value is limited and inconsistent throughout the year. In contrast, the grassland/pollinator substrate will provide consistent, year-round cover and value to grassland-associated species and value to a variety of pollinators. As a result, the placement and management of this small solar Project is not considered incompatible with ongoing agricultural uses in the surrounding area and the overall biological value of the Project site may be enhanced compared to its current use. Thus, the conversion of 11 acres of cultivated field to a solar array managed to enhance biological value is considered a less than significant impact.

Wetlands and other Waters

There are no wetlands or regulated waters on or adjacent to the Project site. There are no streams or riparian corridors on or near the Project site. Thus, the Project would have no direct or indirect impact on wetlands or regulated waters.

Wildlife Movement Corridors

The Project is not located within a wildlife movement corridor. The site and surrounding landscape consist of similar topography and agricultural land use characteristics. The Project site and surrounding lands do not include unique topography or vegetation that would concentrate wildlife use or occurrence. Therefore, wildlife movement is expected to occur similarly over a broad geographic area. Thus, the Project would have no impact to wildlife movement corridors.

Special-Status Species

Only those special-status species with potential to occur on or adjacent to the Project site (highlighted in green in Table 1) are addressed below. There is no suitable habitat on or adjacent to the Project site for the non-highlighted species and therefore the Project will not impact those species.

Swainson's Hawk and White-tailed Kite

The Project site supports 11 acres of suitable agricultural foraging habitat for Swainson's hawk and white-tailed kite. The foraging habitat is similar to that found throughout the cultivated landscape of Yolo County and represents approximately 0.004 percent of the suitable foraging habitat in the county (Estep 2020).

Several mature valley oak and walnut trees along the western edge of the Project site and several cottonwood trees within several hundred feet south of the Project site are considered suitable for nesting by these species. Although none of these trees will be removed by the Project, if nesting occurred and nesting birds were displaced due to construction disturbance, this would constitute a significant impact. Installation of the facility during the nonbreeding season (approximately August 15 to March 1), will avoid disturbances to the nest in the event it is active in subsequent years. There are no noise or visual disturbances associated with Project operation.

Northern Harrier, Western Burrowing Owl, Loggerhead Shrike, Tricolored Blackbird, Mountain Plover

There is no suitable nesting habitat for northern harriers, western burrowing owls, loggerhead shrikes, tricolored blackbirds, or mountain plovers on the Project site. Although it is possible that these species could occasionally hunt or otherwise occur on the Project site, the conversion of the 11 acres of cultivated field to a solar array would not constitute a significant impact or need for mitigation or avoidance measures. By maintaining a grass/pollinator plant substrate on the Project site, foraging value may increase for some species.

Special-status Bats

No potential roosting habitat would be removed or otherwise disturbed by the proposed Project. Therefore, the Project would have no impact on pallid bat, western red bat, or Townsend's big-eared bat.

Special-status Plants

The Project site does not support habitat for any of the special-status plant species known to occur in Yolo County, and therefore the Project would have no impact on these species.

Conclusions and Recommendations

The Project will not result in significant impacts to biological communities, wildlife habitats, wildlife movement corridors, and with the possible exception of Swainson's hawk and white-tailed kite, special-status species. Managed according to the site plan with a grassland substrate and use of pollinator plants, the overall biological value of the Project site may be enhanced compared with current conditions.

Swainson's Hawk. The Project will impact approximately 11 acres of Swainson's hawk foraging habitat. Representing 0.004 percent of the suitable foraging habitat in Yolo County, the Project is not expected to affect the local or regional breeding population. In addition, because the Project site will be managed with a grassland and pollinator plant substrate, it is expected to support relatively high value habitat for rodent and insect prey species, and serve as a source of recolonization of rodent species into adjacent cultivated fields, similar to fallow or weedy fields or uncultivated grasslands and pastures. These benefits are expected to enhance the overall ecologic function of the site (Dolezal et al. 2021) and enhance foraging value to Swainson's hawks and other raptors. Also, recent research has shown that Swainson's hawks and other raptor species will continue to hunt within similarly sized and managed solar facilities that are integrated within a diverse agricultural matrix (Estep 2021). Finally, because Yolo County supports a robust nesting population of over 400 nesting pairs and because there is an operational HCP/NCCP in the county designed to address the conservation and protection of this and other covered species, the conversion of 11 acres of irrigated cropland to a solar field managed to enhance biological values, including prey resources for the Swainson's hawk, is not considered a significant impact to Swainson's hawk.

Because there is potential for Swainson's hawk and white-tailed kite to nest adjacent to the Project site, construction activities during installation of the Project could disturb the active nest and potentially result in nest abandonment and mortality of eggs or young. To avoid this impact, construction should occur during the nonbreeding season, August 15 to March 15, unless it is determined that there is no active nest present. If construction is scheduled to occur during the breeding season, surveys should be conducted prior to Project activities to determine activity at potential nesting trees within a 1,320-foot radius area around the Project site. If active nests are found, a 1,320-foot non-disturbance buffer should be established around the nest to minimize disturbance.

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Appendix D

Cultural Resources Assessment Report

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