Stanislaus County
Striving to be the Best

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

1010 10th Street, Suite 3400, Modesto, CA 95354
Phone: 209.525.6330 Fax: 209.525.5911

Referral
Early Consultation

Date: November 30, 2015

To: Distribution List (See Attachment A)

From: Planning and Community Development

Subject: USE PERMIT APPLICATION NO. PLN2015-0081 – SULLIVAN ROAD SOLAR

Respond By: December 18, 2015

****PLEASE REVIEW REFERRAL PROCESS POLICY****

The Stanislaus County Department of Planning and Community Development is soliciting comments from responsible agencies under the Early Consultation process to determine: a) whether or not the project is subject to CEQA and b) if specific conditions should be placed upon project approval.

Therefore, please contact this office by the response date if you have any comments pertaining to the proposal. Comments made identifying potential impacts should be as specific as possible and should be based on supporting data (e.g., traffic counts, expected pollutant levels, etc.). Your comments should emphasize potential impacts in areas which your agency has expertise and/or jurisdictional responsibilities.

These comments will assist our Department in preparing a staff report to present to the Planning Commission. Those reports will contain our recommendations for approval or denial. They will also contain recommended conditions to be required should the project be approved. Therefore, please list any conditions that you wish to have included for presentation to the Commission as well as any other comments you may have. Please return all comments and/or conditions as soon as possible or no later than the response date referenced above.

Thank you for your cooperation. Please call (209) 525-6330 if you have any questions.

Applicant: Lincoln Solar Millennium, LLC

Project Location: Southeast corner of Pete Miller and Sullivan Roads, west of Interstate 5, in the Newman area.

APN: 028-015-001, 028-007-020

Williamson Act Contract: 1971-0101

General Plan: Agriculture

Current Zoning: A-2-40 (General Agriculture)

Project Description: Request to establish 40 megawatt (MW) solar facility on 154 acres of two parcels, totaling 594± acres on marginal grazing land. Cattle grazing will continue during the life of the project. A Habitat Assessment report was completed to ensure that construction avoided sensitive habitat. At the end of project life the equipment will be removed and the land reclaimed. The applicant is proposing to enter into a power purchase agreement with PG&E.

Full document with attachments available for viewing at:
http://www.stancounty.com/planning/pl/act-projects.shtm

USE PERMIT APPLICATION NO. PLN2015-0081 – SULLIVAN ROAD SOLAR
Attachment A

Distribution List

X	CA DEPT OF CONSERVATION Land Resources		STAN CO ALUC
X	CA DEPT OF FISH & WILDLIFE		STAN CO ANIMAL SERVICES
X	CA DEPT OF FORESTRY (CAL FIRE)	X	STAN CO BUILDING PERMITS DIVISION
X	CA DEPT OF TRANSPORTATION DIST 10	X	STAN CO CEO
X	CA OPR STATE CLEARINGHOUSE		STAN CO CSA
X	CA RWQCB CENTRAL VALLEY REGION	X	STAN CO DER
X	CA STATE LANDS COMMISSION	X	STAN CO ERC
X	CEMETERY DISTRICT: Hills Ferry	X	STAN CO FARM BUREAU
X	CENTRAL CA INFORMATION CENTER	X	STAN CO HAZARDOUS MATERIALS
X	CITY OF: Newman		STAN CO PARKS & RECREATION
	COMMUNITY SERVICES/SANITARY DIST	X	STAN CO PUBLIC WORKS
X	COOPERATIVE EXTENSION		STAN CO RISK MANAGEMENT
X	COUNTY OF: Merced	X	STAN CO SHERIFF
X	FIRE PROTECTION DIST: West Stanislaus	X	STAN CO SUPERVISOR DIST 5: DeMartini
X	HOSPITAL DIST: Westside Zone 1	X	STAN COUNTY COUNSEL
	IRRIGATION DIST:	X	StanCOG
X	MOSQUITO DIST: Turlock	X	STANISLAUS FIRE PREVENTION BUREAU
X	MOUNTIAN VALLEY EMERGENCY MEDICAL SERVICES	X	STANISLAUS LAFCO
	MUNICIPAL ADVISORY COUNCIL:		SURROUNDING LAND OWNERS (on file w/the Clerk to the Board of Supervisors)
X	PACIFIC GAS & ELECTRIC	X	TELEPHONE COMPANY: FRONTIER
X	WEST STANISLAUS RCD	X	TRIBAL CONTACTS (CA Government Code §65352.3)
X	VALLEY CROP DUSTERS		TUOLUMNE RIVER TRUST
X	SAN JOAQUIN VALLEY APCD	X	US ARMY CORPS OF ENGINEERS
X	SCHOOL DIST 1: Newman-Crows Landing Unified	X	US FISH & WILDLIFE
	SCHOOL DIST 2:		US MILITARY (SB 1462) (5 agencies)
X	STAN ALLIANCE	X	USDA NRCS
X	STAN CO AG COMMISSIONER	X	CA DEPT. OF WATER RESOURCES
X	SAIC ENERGY (Pipelines)	X	CA PUBLIC UTILITIES COMMISSION (SAC)
X	DELTA-MENDOTA WATER AUTHORITY		

STANISLAUS COUNTY
CEQA REFERRAL RESPONSE FORM

TO: **Stanislaus County Planning & Community Development**
1010 10th Street, Suite 3400
Modesto, CA 95354

FROM: _____

SUBJECT: **USE PERMIT APPLICATION NO. PLN2015-0081 – SULLIVAN ROAD SOLAR**

Based on this agencies particular field(s) of expertise, it is our position the above described project:

_____ Will not have a significant effect on the environment.
_____ May have a significant effect on the environment.
_____ No Comments.

Listed below are specific impacts which support our determination (e.g., traffic general, carrying capacity, soil types, air quality, etc.) – (attach additional sheet if necessary)

1.
2.
3.
4.

Listed below are possible mitigation measures for the above-listed impacts: *PLEASE BE SURE TO INCLUDE WHEN THE MITIGATION OR CONDITION NEEDS TO BE IMPLEMENTED (PRIOR TO RECORDING A MAP, PRIOR TO ISSUANCE OF A BUILDING PERMIT, ETC.):*

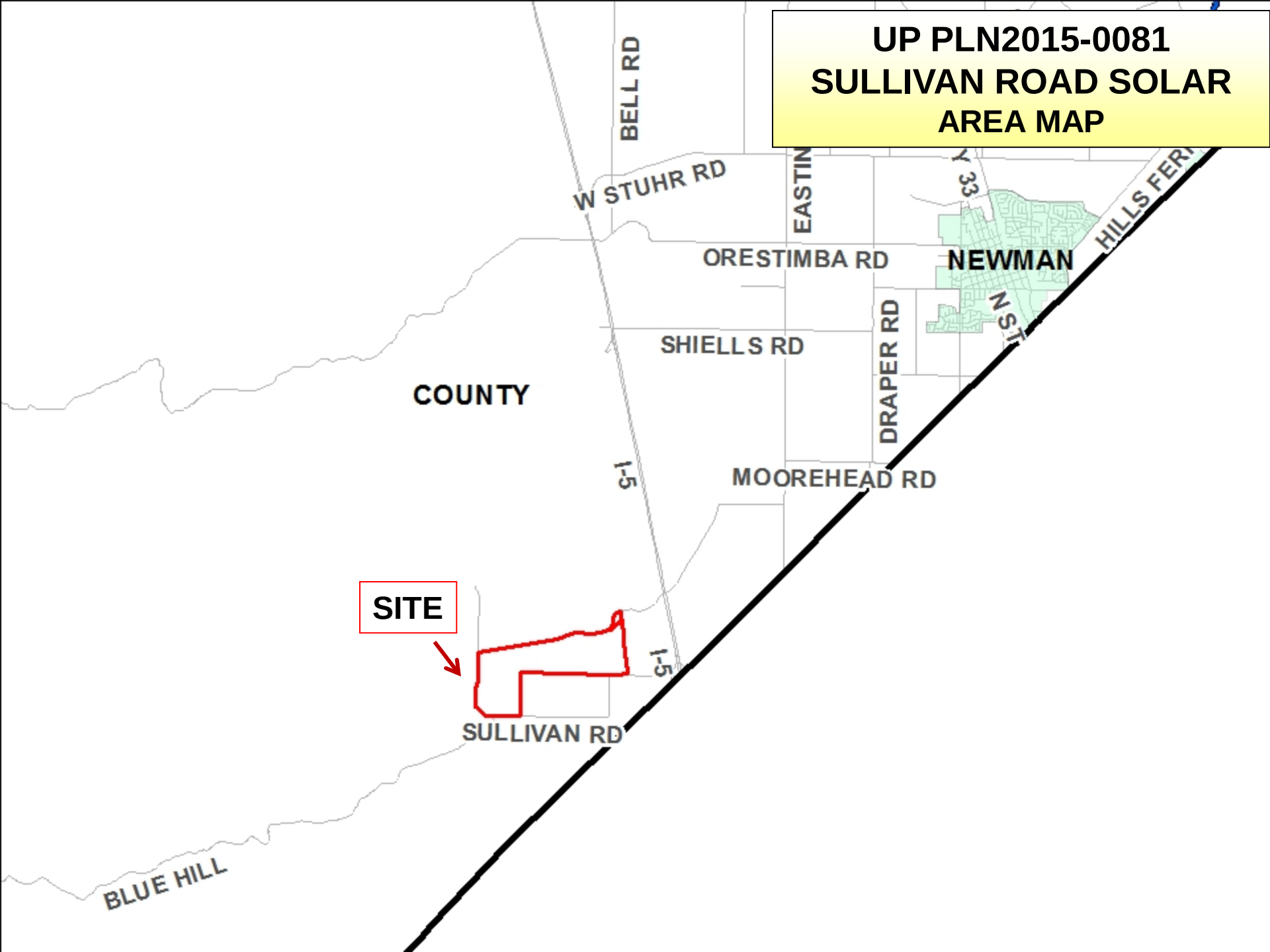
1.
2.
3.
4.

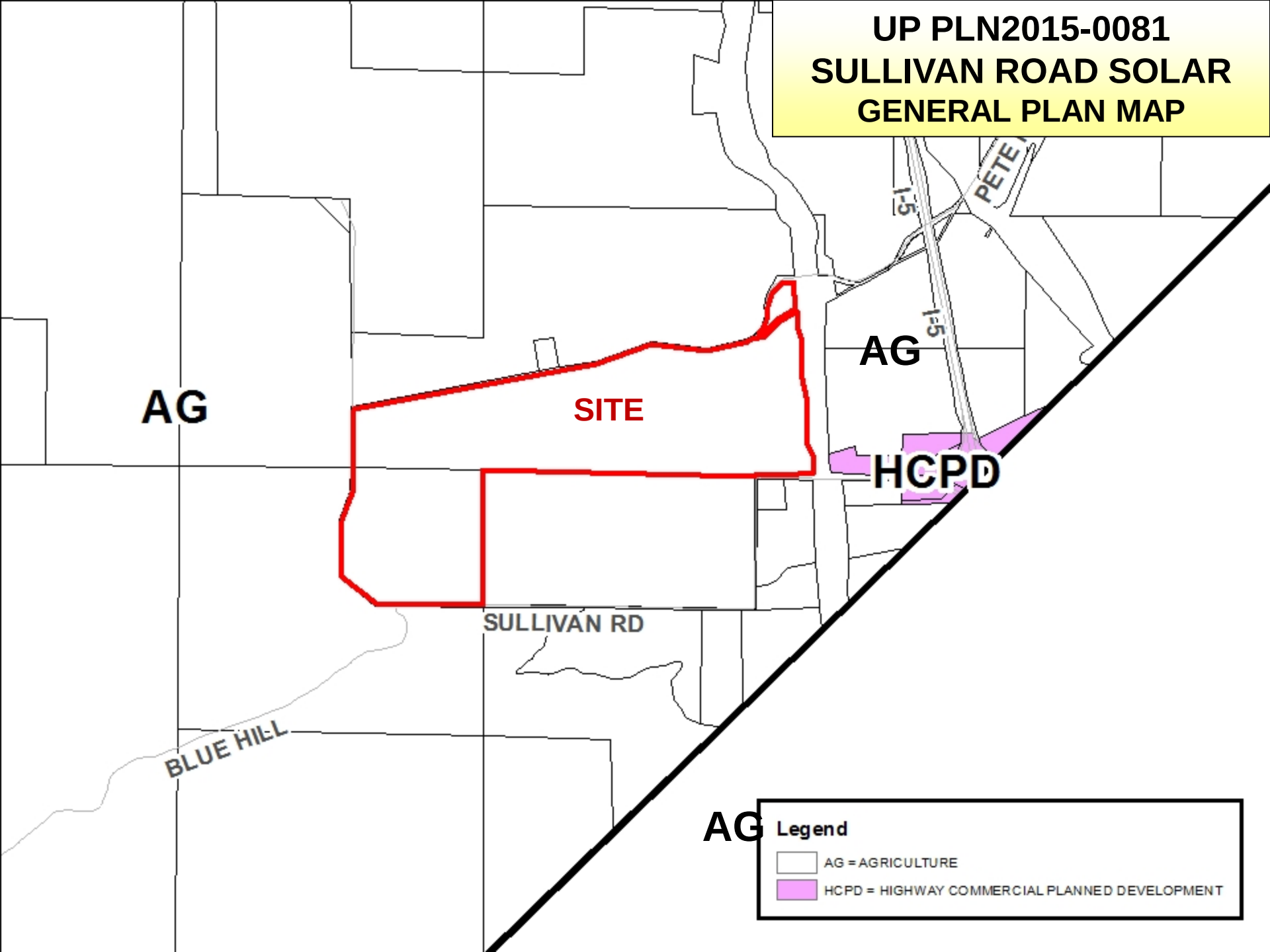
In addition, our agency has the following comments (attach additional sheets if necessary).

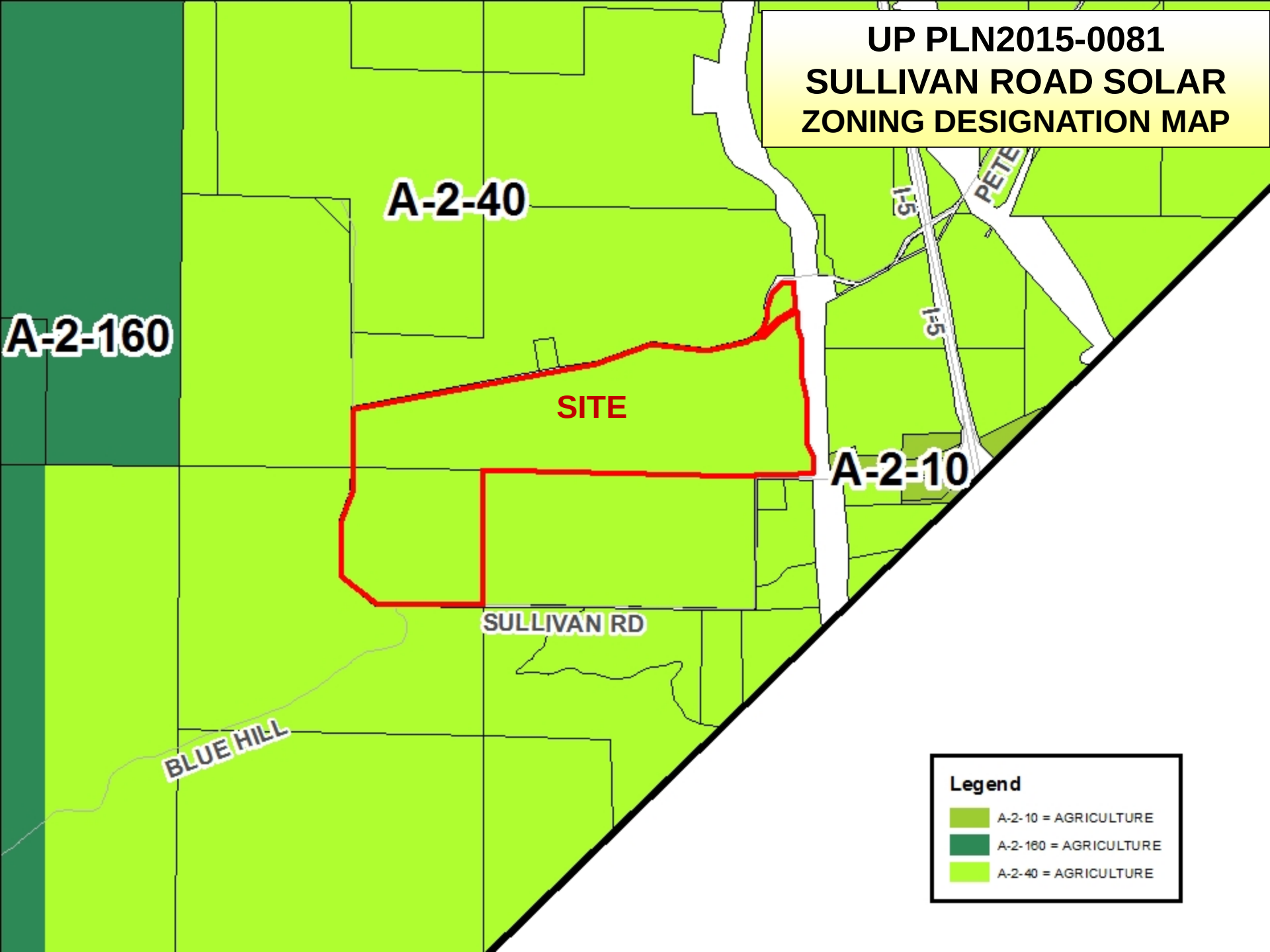
Response prepared by:

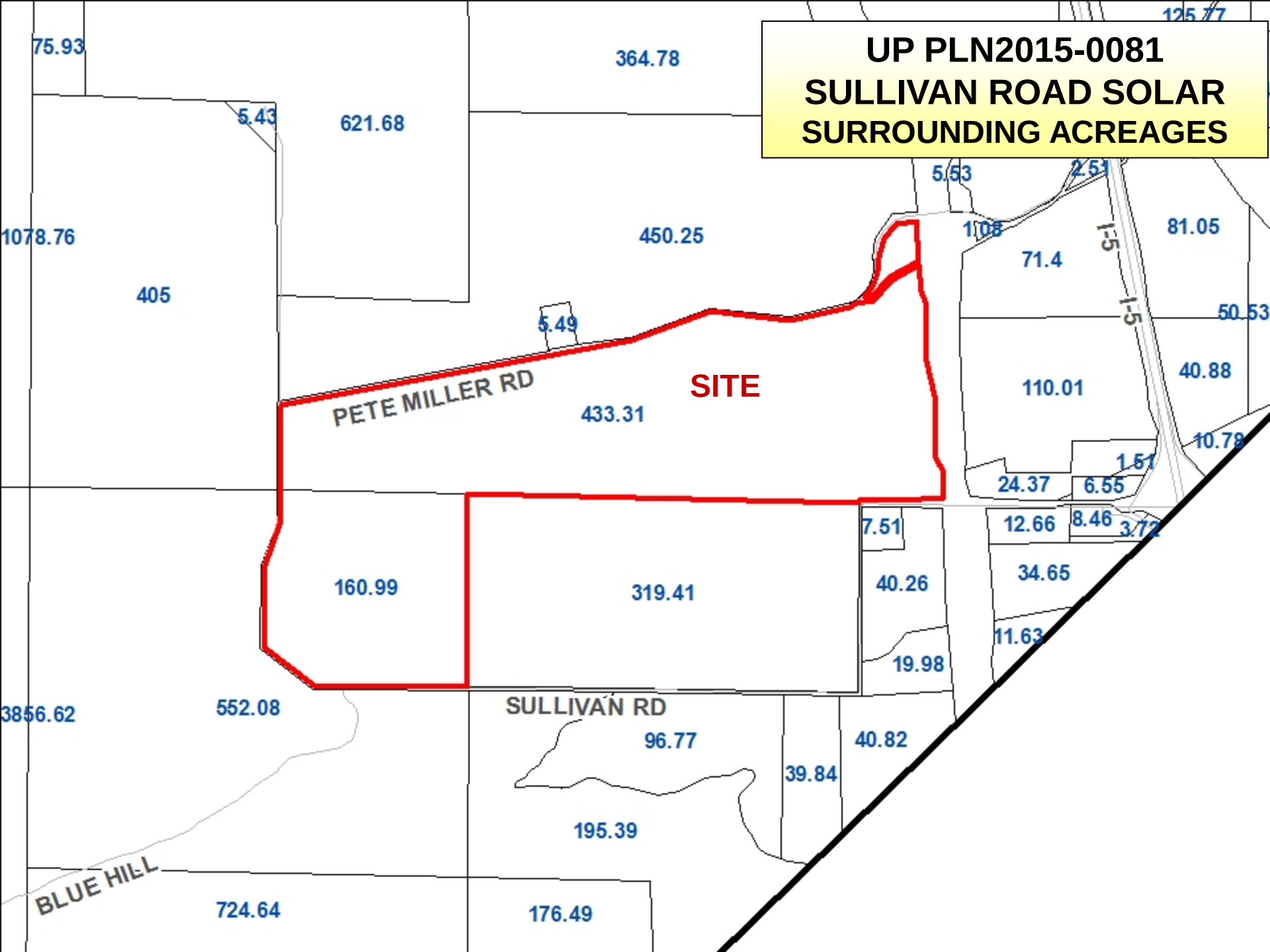
Name Title Date

UP PLN2015-0081
SULLIVAN ROAD SOLAR
AREA MAP

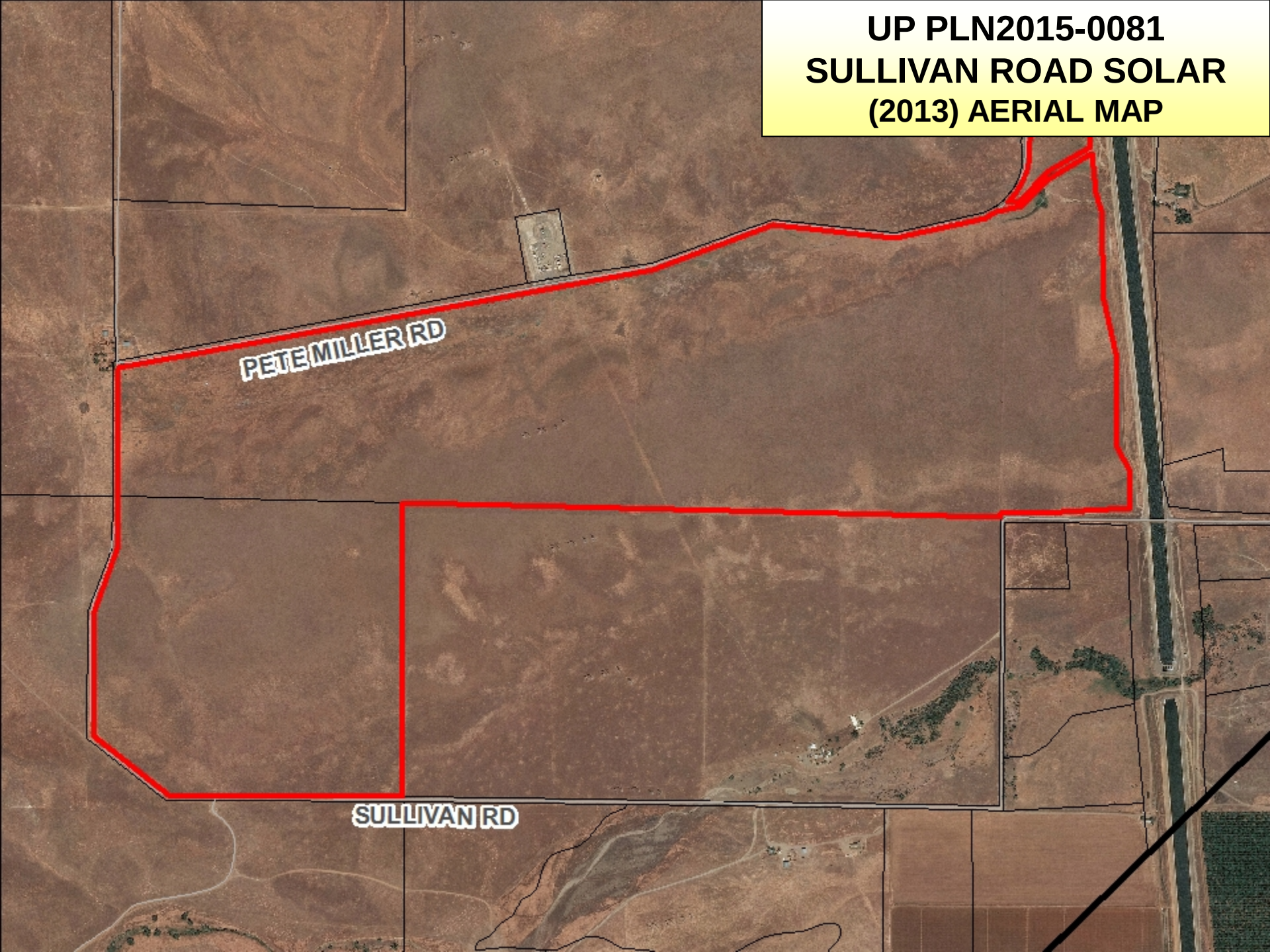


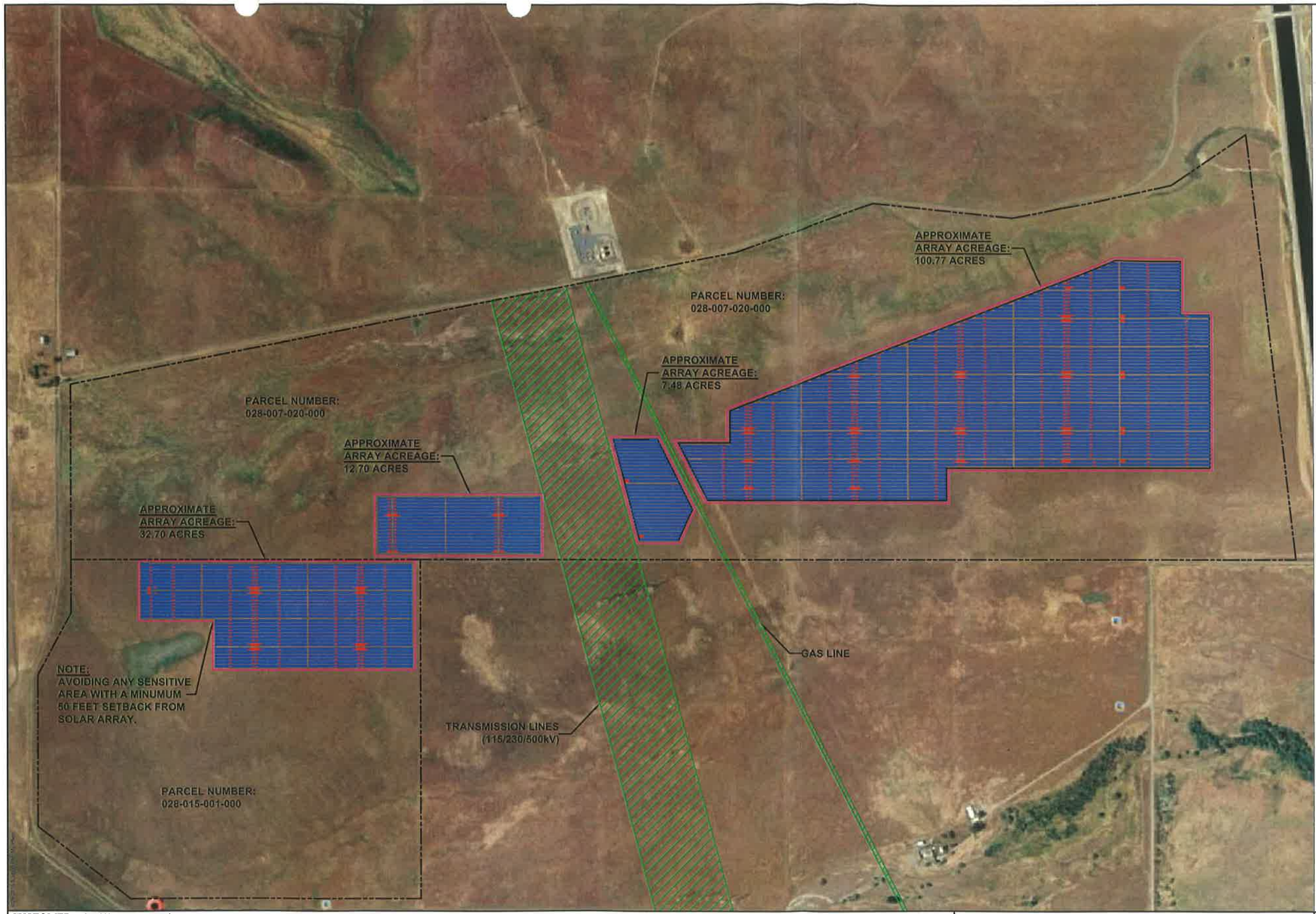

UP PLN2015-0081
SULLIVAN ROAD SOLAR
GENERAL PLAN MAP
AG
SITE
AG
HCPD
AG
SULLIVAN RD
BLUE HILL
I-5
I-5
Legend
AG = AGRICULTURE
HCPD = HIGHWAY COMMERCIAL PLANNED DEVELOPMENT


UP PLN2015-0081
SULLIVAN ROAD SOLAR
ZONING DESIGNATION MAP
A-2-40
A-2-160
SITE
A-2-10
I-5
I-5
SULLIVAN RD
BLUE HILL
Legend
A-2-10 = AGRICULTURE
A-2-160 = AGRICULTURE
A-2-40 = AGRICULTURE


UP PLN2015-0081
SULLIVAN ROAD SOLAR
SURROUNDING ACREAGES
SITE
PETE MILLER RD
SULLIVAN RD
BLUE HILL
I-5
I-5
75.93
364.78
125.77
5.43
621.68
5.53
2.51
1078.76
450.25
1.08
81.05
405
71.4
5.49
50.53
40.88
110.01
433.31
10.78
1.51
24.37
6.55
7.51
12.66
8.46
3.72
160.99
319.41
40.26
34.65
11.63
19.98
3856.62
552.08
96.77
40.82
39.84
195.39
724.64
176.49

UP PLN2015-0081
SULLIVAN ROAD SOLAR
(2013) AERIAL MAP





SYSTEM INFORMATION:

TOTAL SYSTEM SIZE: **43.803** *MWDC*
CEC-AC RATING: 39.999 *MWAC*

GROUND MOUNT
(140,890) CANADIAN SOLAR 315W MODULES
MODULE AZIMUTH (180°)
MODULE TILT (25°) WRT HORIZON
SUGGESTED INVERTER:
(40) SMA SUNNY CENTRAL 900CP-10

***POINTS OF INTERCONNECTION (POI) AND SERVICE RATINGS WERE NOT CONSIDERED IN THIS DESIGN*

***THIS PRELIMINARY DESIGN IS BASED ON GOOGLE EARTH IMAGERY AND NOT ACTUAL FIELD MEASUREMENTS.*

***DESIGN IS SUBJECT TO CHANGE AFTER DETAILED SITE SURVEY IS PERFORMED.*

LEGEND:

- MODULES
- POI — POINT OF INTERCONNECTION
- SETBACK
- FENCE

N

0 350' 700' 1,400'

Scale: 1" = 700'

CUSTOMER: Sullivan Road
Gustine, CA 95360

APN NO(S): 028-007-020-000; 448.81 Total Parcel Acreage
028-015-001-000; 158.40 Total Parcel Acreage

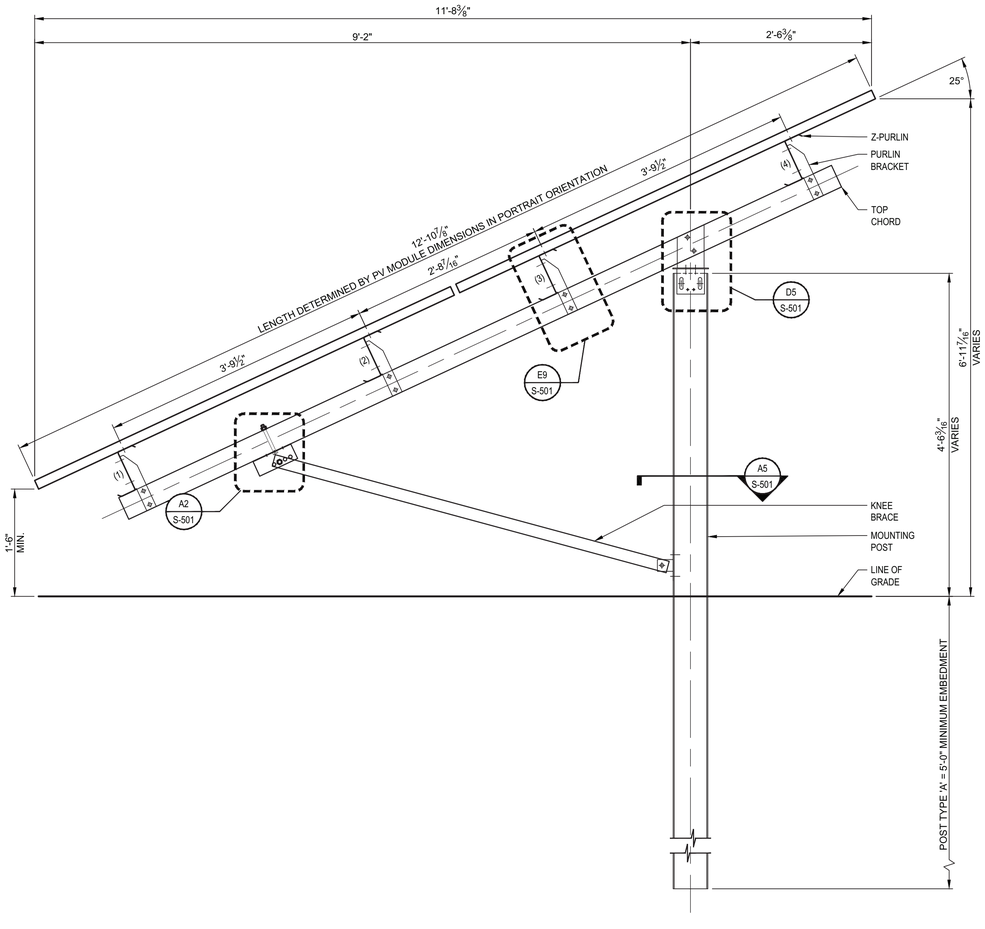
COLDWELL SOLAR

GROUND MOUNT
PHOTOVOLTAIC SYSTEM

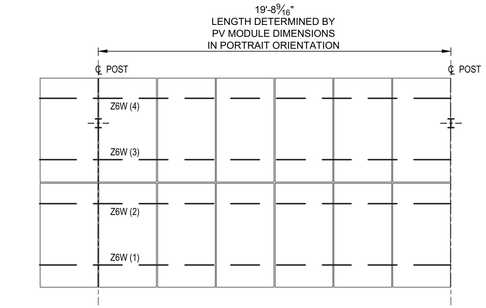
DWG BY		CHECKED BY	DATE
MP		-	01/12/2015
Revision: 5	DWG BY MP	CHECKED BY -	DATE 08/25/2015

PRELIMINARY
SITE LAYOUT

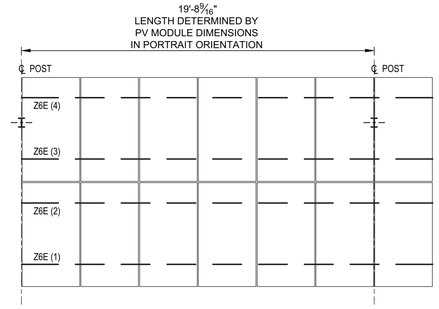
SHEET NO. P-000



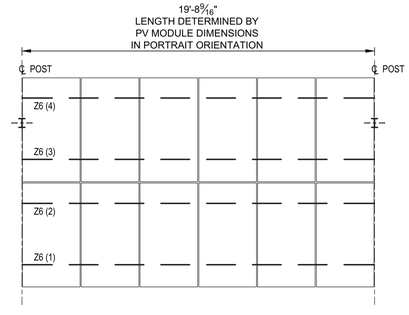
A1 SCALE: 1" = 1'-0"
RACK SECTION



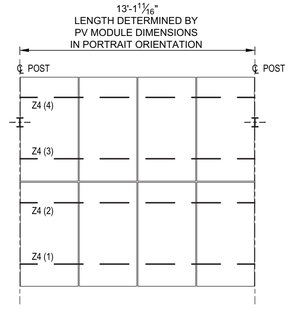
G8 SCALE: 1/4" = 1'-0"
12 MODULE CANTILEVER WEST PLAN VIEW



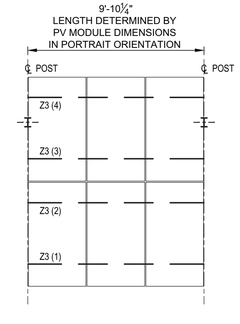
E8 SCALE: 1/4" = 1'-0"
12 MODULE CANTILEVER EAST PLAN VIEW



C8 SCALE: 1/4" = 1'-0"
12 MODULE PLAN VIEW



A8 SCALE: 1/4" = 1'-0"
8 MODULE PLAN VIEW



A10 SCALE: 1/4" = 1'-0"
6 MODULE PLAN VIEW

RBI SOLAR
Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service
5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

REGISTERED PROFESSIONAL ENGINEER
MOHAMED A. ALY
C 67103
EXP. 9-30-16
CIVIL
STATE OF CALIFORNIA

GROUND MOUNT FOR COLDWELL SOLAR

RELEASE RECORD

MARK	DATE	DESCRIPTION
2	10/8/15	PERMIT SET
1	8/17/15	REVIEW

PROJECT INFORMATION

TITLE & ADDRESS:

RBI SOLAR PROJECT No.: 153069

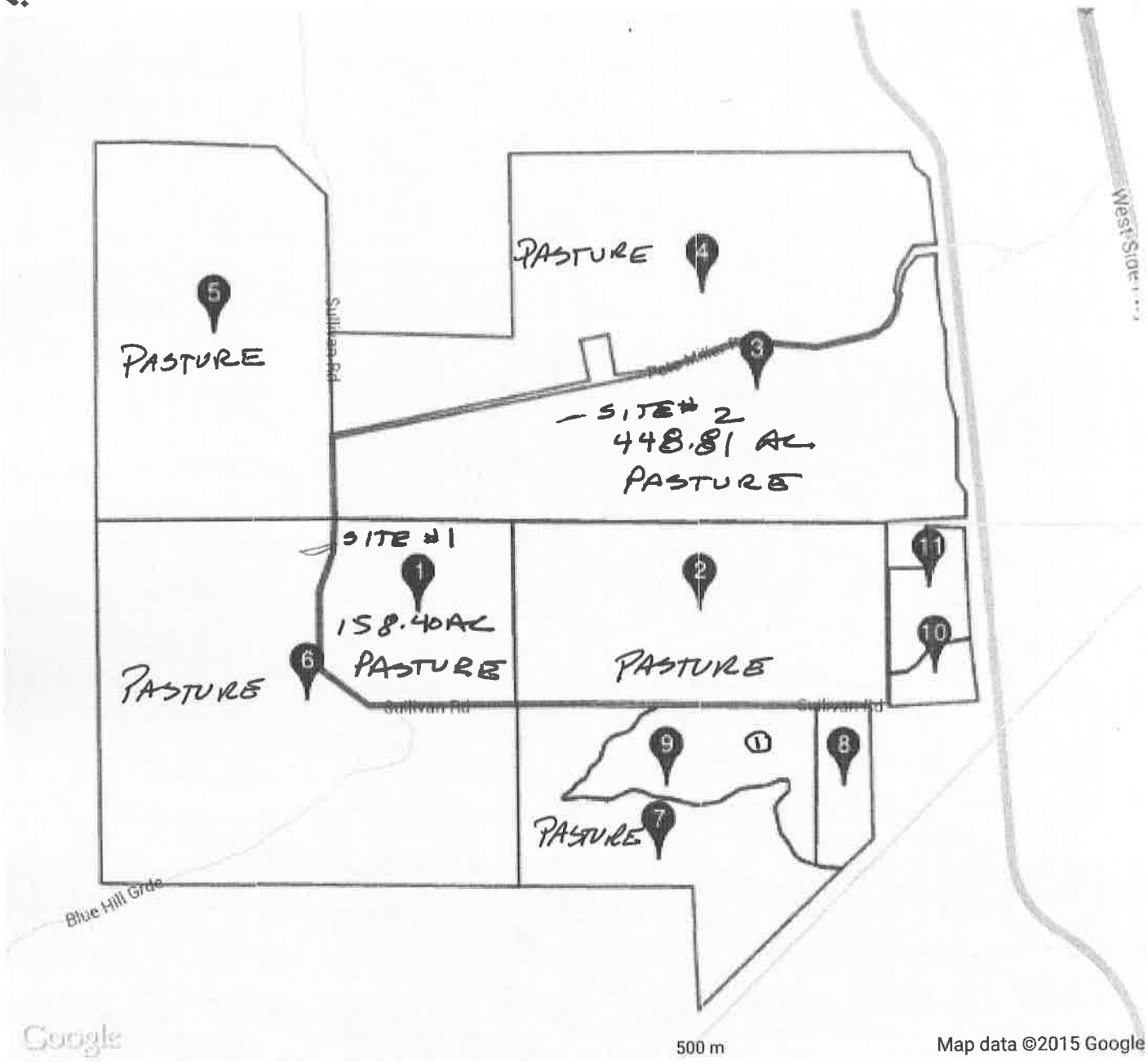
DRAWN BY: HCP

REVIEWED BY: -

SHEET TITLE: RACK SECTION & BAY PLAN VIEWS

SHEET No.: **S-301**

PARCELQUEST



① House

Stanislaus County
Striving to be the Best

APPLICATION QUESTIONNAIRE

Please Check all applicable boxes
APPLICATION FOR: Sullivan Road Solar Project
Staff is available to assist you with determining which applications are necessary

- ☐ General Plan Amendment
- ☐ Rezone
- ☒ Use Permit
- ☐ Variance
- ☐ Historic Site Permit
- ☐ Subdivision Map
- ☐ Parcel Map
- ☐ Exception
- ☐ Williamson Act Cancellation
- ☐ Other _____

PLANNING STAFF USE ONLY:
Application No(s): PLN2015-0081
Date: 8/28/15
S 7,8,9,18 T 8S R 8E
GP Designation: AG
Zoning: A-2-40
Fee: $3,152
Receipt No. _____
Received By: DJ
Notes: WA-71-0101

028-007-020 - 433.31 - 028-015-001 - 160.99

In order for your application to be considered COMPLETE, please answer all applicable questions on the following pages, and provide all applicable information listed on the checklist on pages i – v. Under State law, upon receipt of this application, staff has 30 days to determine if the application is complete. We typically do not take the full 30 days. It may be necessary for you to provide additional information and/or meet with staff to discuss the application. Pre-application meetings are not required, but are highly recommended. An incomplete application will be placed on hold until all the necessary information is provided to the satisfaction of the requesting agency. An application will not be accepted without all the information identified on the checklist.

Please contact staff at (209) 525-6330 to discuss any questions you may have. Staff will attempt to help you in any way we can.

PROJECT INFORMATION

PROJECT DESCRIPTION: (Describe the project in detail, including physical features of the site, proposed improvements, proposed uses or business, operating hours, number of employees, anticipated customers, etc. – Attach additional sheets as necessary)

Please note: A detailed project description is essential to the reviewing process of this request. In order to approve a project, the Planning Commission or the Board of Supervisors must decide whether there is enough information available to be able to make very specific statements about the project. These statements are called "Findings". It is your responsibility as an applicant to provide enough information about the proposed project, so that staff can recommend that the Commission or the Board make the required Findings. Specific project Findings are shown on pages 17 – 19 and can be used as a guide for preparing your project description. (If you are applying for a Variance or Exception, please contact staff to discuss special requirements).

See Attached

COLDWELL SOLAR

PROPOSAL STATEMENT FOR SOLAR FARM LOCATED
AT SULLIVAN ROAD IN STANILAUS COUNTY

Coldwell Solar is proposing to construct a 40 MW solar electric generating facility on approximately 154 acres of an existing 2500 acre ranch. The property is zoned for agriculture. The proposed site is used for seasonal cattle grazing and will continue that practice. There is no water on site and therefore the land has created very little revenue for the farmer in terms of a lease ($17/acre/year). The property has a 115kv, 250kv and 500kv transmission power line through the property.

The project will have a 20 year power purchase agreement and the interconnection will be with PGE. The 100% clean renewable solar power generated by the site will be used to power many residences and businesses located in Stanislaus County. The project will entail construction of fixed-mount and/or tracker solar panels, inverters, and electrical wires connecting the array site with the adjacent utility power lines. Access to the site will be from the existing dirt road located on the property. Project is located below the high voltage transmission lines and is not visible from the freeway. No grading activities are proposed. Solar panels will be installed using a pile-driven anchoring system designed to minimize ground disturbance both during installation and de-commissioning; no concrete casing is proposed. A chain link fence around the perimeter of the array may be installed for security purposes. No additional landscaping or other visual deterrents will be implemented. No continuous night lighting is proposed and all construction and operational activities will be restricted to daylight hours. The 154 acres are strategy located to avoid any wetlands or sensitive areas on the property.

Operation and maintenance (O&M) activities would be managed remotely and no on-site O&M operational facilities are proposed as part of the project with the exception of periodic panel washing using a specialized cleaning machine; no soap or detergents will be used. Vegetation will be controlled using grazing animals or manual removal (mowing or weed whacker) and or in combination with approved herbicides. Applicant owns and operates a solar panel cleaning machine which is designed to use very little water.

All solar equipment will be removed and either recycled or reused to the extent practical, at the end of the 20 year agreement. The scrap metal value for the system more than covers the cost of removal of the system at the end of 20 years. All disturbed areas will be cleaned up, materials removed and returned to original condition. Disturbed areas including access roads, if not retained by the land-owner, will be re-contoured using native soils and re-seeded using a mix of plant species. Gravel, if placed at the site, will be removed and compacted areas will be raked prior to re-seeding unless left in place, at the property owner's discretion for future use. The property could be re-used for agriculture once again.

PROJECT SITE INFORMATION

Complete and accurate information saves time and is vital to project review and assessment. Please complete each section entirely. If a question is not applicable to your project, please indicated this to show that each question has been carefully considered. Contact the Planning & Community Development Department Staff, 1010 10th Street – 3rd Floor, (209) 525-6330, if you have any questions. Pre-application meetings are highly recommended.

ASSESSOR'S PARCEL NUMBER(S): Book 028 Page 015 Parcel 001

Additional parcel numbers: 028-007-020

Project Site Address or Physical Location: SULLIVAN ROAD, NEWMAN, CA

Property Area: Acres: 607.21 or Square feet: _____

Current and Previous Land Use: (Explain existing and previous land use(s) of site for the last ten years)

Pasture land

List any known previous projects approved for this site, such as a Use Permit, Parcel Map, etc.: (Please identify project name, type of project, and date of approval)

None

Existing General Plan & Zoning: Agriculture

Proposed General Plan & Zoning: (if applicable) Agriculture

ADJACENT LAND USE: (Describe adjacent land uses within 1,320 feet (1/4 mile) and/or two parcels in each direction of the project site)

East: Ag. – pasture

West: Ag. – pasture

North: Ag – pasture

South: Ag – pasture

WILLIAMSON ACT CONTRACT:

Yes ☑ **No** ☐

Is the property currently under a Williamson Act Contract?
Contract Number: _____

If yes, has a Notice of Non-Renewal been filed?

Date Filed: _____

Yes ☐ No ☐ Do you propose to cancel any portion of the Contract?

Yes ☐ No ☐ Are there any agriculture, conservation, open space or similar easements affecting the use of the project site. (Such easements do not include Williamson Act Contracts)

If yes, please list and provide a recorded copy: _____

_____

SITE CHARACTERISTICS: (Check one or more) Flat ☒ Rolling ☑ Steep ☐

VEGETATION: What kind of plants are growing on your property? (Check one or more)

Field crops ☐ Orchard ☐ Pasture/Grassland ☒ Scattered trees ☐

Shrubs ☐ Woodland ☐ River/Riparian ☐ Other ☐

Explain Other: _____

Yes ☐ No ☑ Do you plan to remove any trees? (If yes, please show location of trees planned for removal on plot plan and provide information regarding transplanting or replanting.)

GRADING:

Yes ☐ No ☒ Do you plan to do any grading? (If yes, please indicate how many cubic yards and acres to be disturbed. Please show areas to be graded on plot plan.) _____

_____

STREAMS, LAKES, & PONDS:

Yes ☑ No ☐ Are there any streams, lakes, ponds or other watercourses on the property? (If yes, please show on plot plan) See attached environmental report.

Yes ☐ No ☒ Will the project change any drainage patterns? (If yes, please explain – provide additional sheet if needed) _____

_____

Yes ☐ No ☒ Are there any gullies or areas of soil erosion? (If yes, please show on plot plan)

Yes ☐ No ☒ Do you plan to grade, disturb, or in any way change swales, drainages, ditches, gullies, ponds, low lying areas, seeps, springs, streams, creeks, river banks, or other area on the site that carries or holds water for any amount of time during the year? (If yes, please show areas to be graded on plot plan)

Please note: If the answer above is yes, you may be required to obtain authorization from other agencies such as the Corps of Engineers or California Department of Fish and Game.

STRUCTURES:

Yes ☐ No ☒ Are there structures on the site? (If yes, please show on plot plan. Show a relationship to property lines and other features of the site.

Yes ☐ No ☒ Will structures be moved or demolished? (If yes, indicate on plot plan.)

Yes ☐ No ☒ Do you plan to build new structures? (If yes, show location and size on plot plan.)

Yes ☐ No ☒ Are there buildings of possible Historical significance? (If yes, please explain and show location and size on plot plan.) _____

_____

PROJECT SITE COVERAGE:

Existing Building Coverage: _____Sq. Ft.

Proposed Building Coverage: _____Sq. Ft.

Landscaped Area: _____Sq. Ft.

Paved Surface Area: _____Sq. Ft.

BUILDING CHARACTERISTICS:

Size of new structure(s) or building addition(s) in gross sq. ft.: (Provide additional sheets if necessary)_____

_____

Number of floors for each building: _____

_____

Building height in feet (measured from ground to highest point): (Provide additional sheets if necessary)_____

_____

Height of other appurtenances, excluding buildings, measured from ground to highest point (i.e., antennas, mechanical equipment, light poles, etc.): (Provide additional sheets if necessary)_____

_____

Proposed surface material for parking area: (Provide information addressing dust control measures if non-asphalt/concrete material to be used) _____

_____

UTILITIES AND IRRIGATION FACILITIES:

Yes ☐ No ☒ Are there existing public or private utilities on the site? Includes telephone, power, water, etc. (If yes, show location and size on plot plan)

Who provides, or will provide the following services to the property?

Electrical: _____

Telephone:_____

Water**: _____

Sewer*: _____

Gas/Propane: _____

Irrigation: _____

***Please Note: A "will serve" letter is required if the sewer service will be provided by City, Sanitary District, Community Services District, etc.**

****Please Note: A "will serve" letter is required if the water source is a City, Irrigation District, Water District, etc., and the water purveyor may be required to provide verification through an Urban Water Management Plan that an adequate water supply exists to service your proposed development.**

Will any special or unique sewage wastes be generated by this development other than that normally associated with resident or employee restrooms? Industrial, chemical, manufacturing, animal wastes? (Please describe:)

_____

_____

_____

Please Note: Should any waste be generated by the proposed project other than that normally associated with a single family residence, it is likely that Waste Discharge Requirements will be required by the Regional Water Quality Control Board. Detailed descriptions of quantities, quality, treatment, and disposal may be required.

Yes ☒ **No** ☐ Are there existing irrigation, telephone, or power company easements on the property? (If yes, show location and size on plot plan.)

Yes ☐ **No** ☒ Do the existing utilities, including irrigation facilities, need to be moved? (If yes, show location and size on plot plan.)

Yes ☐ **No** ☐ Does the project require extension of utilities? (If yes, show location and size on plot plan.)

AFFORDABLE HOUSING/SENIOR:

Yes ☐ **No** ☒ Will the project include affordable or senior housing provisions? (If yes, please explain)

RESIDENTIAL PROJECTS: (Please complete if applicable – Attach additional sheets if necessary)

Total No. Lots:_____ Total Dwelling Units:_____ Total Acreage:_____

Net Density per Acre: _____ Gross Density per Acre: _____

(complete if applicable)	Single Family	Two Family Duplex	Multi-Family Apartments	Multi-Family Condominium/ Townhouse
Number of Units:	_____	_____	_____	_____
Acreage:	_____	_____	_____	_____

COMMERCIAL, INDUSTRIAL, MANUFACTURING, RETAIL, USE PERMIT, OR OTHER PROJECTS: (Please complete if applicable – Attach additional sheets if necessary)

Square footage of each existing or proposed building(s): _____

_____

Type of use(s): _____

_____

Days and hours of operation: _____

_____

Seasonal operation (i.e., packing shed, huller, etc.) months and hours of operation: _____

_____

Occupancy/capacity of building: _____

_____

Number of employees: (Maximum Shift): _____ (Minimum Shift): _____

Estimated number of daily customers/visitors on site at peak time: _____

Other occupants: _____

_____

Estimated number of truck deliveries/loadings per day: _____

Estimated hours of truck deliveries/loadings per day: _____

Estimated percentage of traffic to be generated by trucks: _____

Estimated number of railroad deliveries/loadings per day: _____

Square footage of:

Office area: _____ Warehouse area: _____

Sales area: _____ Storage area: _____

Loading area: _____ Manufacturing area: _____

Other: (explain type of area) _____

Yes ☐ **No** ☒ Will the proposed use involve toxic or hazardous materials or waste? (Please explain)

_____

_____

_____

_____

ROAD AND ACCESS INFORMATION:

What County road(s) will provide the project's main access? (Please show all existing and proposed driveways on the plot plan)

Sullivan Road / Pete Miller Road

_____

_____

Yes ☐ No ☒ Are there private or public road or access easements on the property now? (If yes, show location and size on plot plan)

Yes ☐ No ☒ Do you require a private road or easement to access the property? (If yes, show location and size on plot plan)

Yes ☐ No ☒ Do you require security gates and fencing on the access? (If yes, show location and size on plot plan)

Please Note: Parcels that do not front on a County-maintained road or require special access may require approval of an Exception to the Subdivision Ordinance. Please contact staff to determine if an exception is needed and to discuss the necessary Findings.

STORM DRAINAGE:

How will your project handle storm water runoff? (Check one) ☐ Drainage Basin ☐ Direct Discharge ☐ Overland

☐ Other: (please explain) _____

If direct discharge is proposed, what specific waterway are you proposing to discharge to? _____

_____

Please Note: If direct discharge is proposed, you will be required to obtain a NPDES permit from the Regional Water Quality Control Board, and must provide evidence that you have contacted them regarding this proposal with your application.

EROSION CONTROL:

If you plan on grading any portion of the site, please provide a description of erosion control measures you propose to implement.

N/A

_____

Please note: You may be required to obtain an NPDES Storm Water Permit from the Regional Water Quality Control Board and prepare a Storm Water Pollution Prevention Plan.

ADDITIONAL INFORMATION:

Please use this space to provide any other information you feel is appropriate for the County to consider during review of your application. (Attach extra sheets if necessary)

_____

_____

_____

_____

_____

_____

_____

Habitat Assessment

Ground Mount Photovoltaic System
Sullivan Road, Gustine
Stanislaus County, CA

FINAL

August 27, 2015

Prepared for
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Habitat Assessment
Sullivan Road
Gustine, Stanislaus County

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SUMMARY

The Ground Mount Photovoltaic System project, located at western end of Sullivan Road in the Town of Gustine, includes the placement of a 200-acre photovoltaic system. Development will occur on either Option 1, comprising 167.12 acres, or Option 2, comprising143.40 acres or a combination of the two sites to avoid sensitive resources.

This Habitat Assessment presents the findings of our review of scientific literature and reports detailing previous studies conducted in the area, and the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) for reported occurrences of special-status vegetation communities, plants and animals.

Two vegetation community types occur on the property: *Avena (barbata, fatua)* semi-natural herbaceous stands or wild oats grasslands and northern hardpan vernal pools. Native vegetation types have been classified corresponding to The Manual of California Vegetation Second Edition (Sawyer, et. al. 2009).

As part of this Habitat Assessment, we conducted a site visit of all habitats on the site to evaluate the potential for occurrence of 18 special-status plant species, and 18 special-status wildlife species. The two parcels were assessed for potentially suitable bird nesting habitat, as well as suitable habitat for other species.

Based on the literature review, presence of seasonal wetlands on site, seasonal periods of bird and limitations of the surveys conducted for this assessment, the following are action items to be addressed prior to ground breaking:

The project proposes to avoid the potential wetlands located on both parcels; however, if wetlands cannot be avoided then the following must occur:

- Obtain a Section 404 Nation Wide Permit (NWP) from the U.S. Army Corps of Engineers and a 401 water quality certification from the North Coast Regional Water Quality Control Board for the placement of fill into wetlands, and
- Obtain a Section 7 or Section 10 consultation from the UFWS regarding impacts to vernal pool invertebrates and loss of habitat.

Several upland species have potential to occur on the two parcels. No protocol surveys were conducted as part of this habitat assessment.

- Several pairs of nesting birds were observed on-site. Site development should occur outside the nesting season to avoid take of individuals,
- Western burrowing owl has the potential to use the small mammal burrows on the site and measures to prevent takeoff individuals and mitigate for loss of habitat are included in this report, and
- San Joaquin kit fox have been reported in the area and measures to prevent take of individuals have been included in this report.

INTRODUCTION

Coldwell Solar Inc. contracted with Wildlife Research Associates and Jane Valerius Environmental Consulting to conduct a Habitat Assessment of the two parcels located in the western portion of Gustine, Stanislaus County, California The northern parcel (Option 1) is 167.12 acres and the western parcel (Option 2) is 143.40 acres. This habitat assessment was conducted to determine the potential for special-status vegetation communities, plant and animal species to occur within the proposed project and to identify the limitations to potential development of the project, such as: a) impacts to wetlands and streams, and, b) habitat removal.

This Habitat Assessment is part of the preliminary analysis of both the existing environment and potential impacts from the proposed project as required under the California Environmental Quality Act (CEQA) for new projects. Federal and state agencies that have purview over biological resources include the following:

- U.S. Army Corps of Engineers (USACE),
- U.S. Fish and Wildlife Service (USFWS),
- National Marine Fisheries Service (NMFS),
- California Regional Water Quality Control Board (RWQCB), and the
- California Department of Fish and Wildlife (CDFW).

The USACE regulates the discharge of dredged or fill material into waters of the United States. Waters of the U.S. are defined as waters that are hydrologically connected to waters with interstate or foreign commerce, and includes tributaries to any of these waters, and wetlands, which are areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation typically adapted to life in saturated soil conditions. The USFWS has regulatory authority over federally listed plant and animal species. The NMFS, a division of the National Oceanic and Atmospheric Administration (NOAA), has regulatory authority over essential fish habitat, which is habitat necessary to maintain sustainable fisheries in the United States. The California RWQCB protects all waters with special responsibility for wetlands, riparian areas, and headwaters. The CDFW has regulatory authority over state listed plants and animals as well as streams and lakes within the State.

Site Location

Both parcels are located between Pete Miller Road on the north and Sullivan Road on the south, and west of Highway 5 and the California Aqueduct. The northern parcel is polygon shaped and is approximately 300 feet in elevation (Figure 1). The southern parcel is approximately square and ranges in elevation between 300 feet in the south and 275 feet in the north.

Proposed Project

Project would utilize driven support posts for the PV modules that have eliminated any need for the previously proposed on-ground concrete ballasts. Perimeter fencing is intended to provide security for solar arrays and would consist of a six foot cyclone fence topped with barbed wire.

Traffic would occur during the construction phase. Construction traffic is estimated by the Applicant at five (5) roundtrips per day, including two (2) trips per day for decomposed granite trucks traveling locally within the valley. Construction worker trips would total two (2) per day. It is unknown the number of work days at this time. Traffic trips will occur during the daytime.

METHODS

Information on special-status plant species was compiled through a review of the literature and database search. Database searches for known occurrences of special-status species focused on the Orestimba Peak, Crevison Peak, Howard Ranch and Newman U.S. Geologic Service 7.5-minute topographic quadrangles, which provided a five mile radius around the two parcels. The following sources were reviewed to determine which special-status plant and wildlife species have been documented in the vicinity of the project site:

- U.S. Fish and Wildlife Service (USFWS) quadrangle species lists (USFWS 2015)
- USFWS list of special-status animals for Sonoma County (USFWS 2015)
- California Natural Diversity Database records (CNDDB) (CDFW 2015)
- California Department of Fish and Wildlife's (CDFW) Special Animals List (CDFW 2015),
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2015)
- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2015)
- California Department of Fish and Game (CDFG) publication "California's Wildlife, Volumes I-III" (Zeiner, et al., 1990)

Botanical nomenclature used in this report conforms to Baldwin, et al. (2012) for plants and to Sawyer, et al. (2009) for vegetation communities. Nomenclature for special-status animal species conforms to CDFW (2015).

Site Survey: Trish Tatarian, Wildlife Research Associates, and Jane Valerius Environmental Consulting conducted a site visit on May 29, 2015, between the hours of 1100 and 1500. Jane Valerius Environmental Consulting conducted a site visit in January 2015, which was outside the blooming period for plants. Walking transects of the two parcels were conducted as part of the reconnaissance level surveys. No focused surveys for plants or wildlife were conducted. Those species observed during the walking transects were recorded.

EXISTING CONDITIONS

The project area is located within the San Joaquin Valley Bioregion (Welsh 1994) on the eastern escarpment of the Coastal Ranges. This bioregion is located within central California and encompasses the San Joaquin Valley from the Mokelumne River, east of State Highway 99, and from the Stanislaus River and the San Joaquin County line west of Highway 99, south to the crest of the Tehachapi Mountains, located south of the Kern River drainage (Welsh 1994). Dominant habitats within this bioregion include annual grasslands, blue oak-grey pine woodlands and alkali scrubland, but other habitats present also includes both mesic (moist) habitats, such as fresh emergent wetland, and xeric (dry) habitats, such as chaparral, and are typical of a Mediterranean type climate.

The two proposed parcels span several 7.5 minute topographic quadrangles because it is located within the southwestern portion of the Newman, the northwestern corner of the Howard Ranch, and the northeastern corner of Crevison Peak, within Sections 8, 17 and 18, Township 8S and Range 8E. Topographically, the project site is located on a predominantly flat slope in the north at the southeastern end of Bennett Valley, and then slopes south towards Garzas Creek in the south.

Both parcels have been cattle grazed in previous seasons but were not on the range at the time of the survey.

Wetlands and Waters of the U.S. and State

A formal delineation for wetlands was not conducted of the site for this report. However, based on the May 29, 2015 site visit, several vernal pool type wetlands were observed. One small vernal pool type seasonal wetland was observed on Parcel 1 in the southeast corner and several vernal pools and swales were observed on Parcel 2. Parcel 2 supports a large vernal pool in the northwest corner and several vernal pools and swales in the southern portion of the parcel. Garzas Creek is located to the south of the two parcels, which provides a hydrologic connection to a waters of the U.S.

Vegetation Communities
Two vegetation types occur within the project study area: *Avena (barbata, fatua)* semi-natural herbaceous stands or wild oats grasslands and northern hardpan vernal pools. The wild oats grassland type is comprised of wild oats along with other non-native annual grasses such as soft chess (*Bromus hordaeceus*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), hare barley (*Hordeum murinum* ssp. *leporinum*), ryegrass (*Festuca perennis*) and rattail fescue (*Festuca myuros*). Non-native herbaceous forb species included doveweed (*Croton setiger*), bindweed (*Convolvulus arvensis*), black mustard (*Brassica nigra*), cut-leaf plantain (*Plantago coronopus*), and broad-leaved filaree (*Erodium botrys*). Native forb species noted included fiddleneck (*Amsinckia menziesii*), blow wives (*Achyrachaena mollis*), spikeweed (*Centromadia fitchii*), common tarweed (*Centromadia pungens* ssp. *pungens*), yellow flowered tarweed (*Holocarpha virgata* ssp. *virgata*) and Great Valley gumplant (*Grindelia camporum*).

The northern hardpan vernal pool type is dominated by Great Valley coyote-thistle (*Eryngium castrense*). Other wetland plant species noted included hyssop loosestrife (*Lythrum hyssopifolium*), annual hairgrass (*Deschampsia danthonioides*), evax (*Hesperevax* sp.), goldfields (*Lasthenia* sp.), and curly dock (*Rumex crispus*). This vegetation type occurs on several soil series including Stomar clay loam, 0 to 2 percent slopes; Damluis clay loam 0 to 2 percent slopes; and Damluis clay loam, 2 to 8 percent slopes. Northern claypan vernal pool is a special status vegetation community type and subject to jurisdiction and regulation by the U.S. Army Corps of Engineers (Corps) and the state Regional Water Quality Control Board (RWQCB).

Wildlife Habitats
The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of diversity of abiotic and biotic conditions and is greatly affected by human use of the land. The wildlife habitat quality of an area, therefore, is ultimately determined by the type, size, and diversity of vegetation communities present and their degree of disturbance. Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. The following is a discussion of the wildlife species supported by the on-site habitats, as described by *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

Both sites are currently grazed in a winter spring rotation. As a result, much of the grasses on the site were trampled rather than grazed. The northern parcel supported more weedy ruderal species, such as mustard and bindweed.

Grasslands: Grassland habitat, including native and non-native grasslands, provides both primary habitat, such as nesting and foraging, and secondary habitat, such as a movement corridor. Small species using this habitat as primary habitat include reptiles and amphibians, such as southern alligator lizard (*Gerrhonotus multicarinatus*), and western fence lizard (*Sceloporus occidentalis*), which feed on invertebrates found within and beneath vegetation within the vegetation community. This habitat also attracts seed-eating and insect-eating species of birds and mammals. Signs of wildlife using the grasslands on both parcels include several pairs of horned larks (*Eremophila alpestris actia*), western meadowlark (*Sturnella neglecta*), and California ground squirrel (*Spermophilus beecheyi*). Evidence of Audubon's cottontail (*Sylvilagus audunbonii*), striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*) were also observed on the site.

Burrows of California ground squirrel were observed on the southern portions of both parcels. Areas that are flat, on the northern portion of both sites, did not support ground squirrel burrows. On the southern parcel, the burrows along the fence line were active with ground squirrels, as shown by active trails and short grasses, and all had scat at the entrances, showing occupancy by ground squirrel.

The ephemeral vernal pools occurring within the grasslands on the two parcels may pond water of a duration to support invertebrates such as vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*) (see below under Special-status Species). Vernal pools are utilized as a source

of drinking water for wildlife species. Amphibian species such as the western toad (*Bufo boreas*) and western spadefoot toad (*Spea hammondii*) may breed in the pools if they hold water for a sufficient time.

Movement Corridors
Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement among populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation, and if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

As described in the *California Essential Connectivity Project* (Spencer, et al. 2010), the study area is located on the west side of the Great Central Valley Ecoregion (Fig. 3.5, Spencer, et al. 2010). The natural drainages in the area (e.g., Garzas Creek) flow east to the San Joaquin River into the San Francisco Bay and then into the Pacific Ocean. The Study Area is within a Natural Landscape Block of the Diablan Range (defined as relatively natural habitat blocks that support native biodiversity), which runs east to Highway 5. The study area is located in an Essential Connectivity Area (defined as areas that are essential for ecological connectivity between blocks) and are identified as #404, Hardpan Terraces (Fig. 3.2, Spencer, et al. 2010).

Barriers to movement include those structures that impede such movements, such as large scale development or major highways with no under crossings. Roads cause habitat fragmentation because they break large habitat areas into smaller habitat patches that support fewer individuals, which can increase loss of genetic diversity and risk of local extinction. Additionally, roads may prevent access to essential physical or biological features necessary for breeding, feeding, or sheltering. Wildlife connectivity of this site to other open lands in the area is reduced by the aquaduct and Highway 5 east of the site. No impediments to wildlife movements occur to the west or north.

The project area appears to be located outside the San Joaquin Kit Fox Recovery Area link for western Stanislaus County (USFWS 2007).

SPECIAL-STATUS BIOLOGICAL RESOURCES

Certain vegetation communities, and plant and animal species are designated as having special-status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special-status is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. The California Endangered Species Act (CESA) amends the California Fish and Wildlife Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA.

Special-status Vegetation Communities
Sensitive natural communities are those that are considered rare in the region, may support special-status plant or wildlife species, or may receive regulatory protection (i.e., through Section 404 of the Clean Water

Act [CWA] and/or Sections 1600 et seq. of the California Fish and Wildlife Code). In addition, sensitive natural communities include plant communities that have been identified as having highest inventory priority in the California Natural Diversity Database (CNDDB). The second edition of *A Manual of California Vegetation* (Sawyer, et al. 2009) also provides the rarity ranking status of these communities.

One special status or sensitive natural community type occurs on the project site: Northern claypan vernal pool. This is both a special status community type and is also a wetland type subject to jurisdiction and regulation by the Corps and RWQCB. Impacts to this community type require permits from the Corps and RWQCB as well as compensation or mitigation for loss of habitat.

Special-status Plant Species

Special-status plant species are those species that are legally protected under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA) as listed or proposed for listing as threatened or endangered, as well as species that are considered rare by the scientific community. For example, the California Native Plant Society (CNPS) has identified some species as List 1 or 2 species and may be considered rare or endangered pursuant to Section 15380(b) of the State CEQA Guidelines. The CDFW has compiled a list of "Special Plants" (CDFW 2015), which include California Special Concern species. These designations are given to those plant species whose vegetation communities are seriously threatened. Although these species may be abundant elsewhere they are considered to be at some risk of extinction in California. Although Special Concern species are afforded no official legal status under FESA or CESA, they may receive special consideration during the planning stages of certain development projects and adverse impacts may be deemed significant under the California Environmental Quality Act (CEQA).

A total of 18 special-status plant species have been reported occurring on the Howard Ranch, Newman, Crevison Peak and Orestimba Peak topographic quadrangles (CNDDB 2015). Please refer to Appendix B for a list of these species and their potential for occurrence. Many species were considered to have no potential to occur either because these species are restricted to areas with serpentinite, or volcanic soils and these substrates are lacking within the study area, or the species occurs in habitats not present within the study area such as chenopod scrub, meadows and seeps, cismontane woodland, chaparral, coastal scrub, riparian scrub, pinyon and juniper woodland, and lower montane coniferous forest. No special-status plants were noted during the site visit conducted on May 29, 2015. However, the site visit was conducted during a drought year when most of the plant species on site were desiccated, such that identification to species was not possible and the timing of the site visit was also past the blooming period for many of the special status plants that could occur on site.

Five special status plants that were identified through the CNDDB search as having the potential to occur in the area could occur within the project study area based on the presence of potential habitat and would require additional surveys because the site visit was conducted outside the blooming period for these species. These are: alkali milk-vetch (*Astragalus tener* var. *tener*); round-leaved filaree (*California macrophylla*); small-flowered morning-glory (*Convolvulus simulans*); little mousetail (*Myosurus minimus* ssp. *apus*); and prostrate vernal pool navarretia (*Navarretia prostrata*). Two other species, vernal pool smallscale (*Atriplex persistens*) and San Joaquin spearscale (*Etriplex joaquinana*) were identified has having a low potential to occur but were not observed during the site survey, which was conducted within the blooming period for these species. Additional, seasonal and protocol-level plant surveys are recommended to determine the presence or absence of the five special status plants that have potential to occur within the project area. Additional surveys are recommended for March and April.

Special-status Animal Species

Special-status animal species include those listed by the USFWS (2015) and the CDFW (2015). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act *(e.g.*, bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFW to be species of special concern; these are listed in Remsen (1978), Williams (1986), and Jennings and Hayes (1994). Although such species are afforded no official legal status,

they may receive special consideration during the planning and CEQA review stages of certain development projects. The CDFW further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates that a species may not be taken or possessed except under special permit from the CDFW; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

Of the 13 special-status animal species identified as potentially occurring in the vicinity of the project area, including a 5 mile radius (CNDDB 2015), several additional species were evaluated for their potential to occur within the study area, based on: 1) review of the CNDDB, 2) the "Special Animals" list (CDFW 2015) that includes those wildlife species whose breeding populations are in serious decline, and 3) the habitat present on site. See Appendix C for a list of the 18 species evaluated.

Several of these species are prominent in today's regulatory environment and are discussed below. This document does not address impacts to species that may occur in the region but for which no habitat occurs on site.

Invertebrates – Vernal pool fairy shrimp (*Branchinecta lynchi*) and tadpole shrimp (*Lepidurus packardi*)
Status: federally listed Threatened and Endangered, respectively

General Ecology and Distribution: These species can be found in vernal pools and other small seasonal bodies of water (predominantly freshwater) containing clear to tea-colored water. They can be found in vernal pools and other small seasonal bodies of water (predominantly freshwater) containing clear to tea-colored water. Habitat occupancy typically occurs between early December to early May, when temperatures above 10° C trigger hatching.

Project Area Occurrence: No invertebrate surveys were conducted as part of this habitat assessment. The vernal pools on parcel 2 likely support both of these species. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these species.

Nesting Passerines (perching birds) California horned lark (*Eremophila alpestris*)
Status: protected under the MBTA and Fish and Wildlife Code 3503,

General Ecology and Distribution: As early as February, passerines begin courtship and once paired, they begin nest building, often around the beginning of March. Depending on environmental conditions, young birds may fledge from the nest as early as May and, if the prey base is large, the adults may lay a second clutch of eggs.

Project Area Occurrence: No nesting bird surveys were conducted as part of this habitat assessment based on the length of time before breaking ground (i.e., approximately 1 years). Several species were observed ground nesting on the site, including California horned lark. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

Burrowing owl (*Athene cunicularia hypugaea*)
Status: California Threatened Species, California Fish and Game Code 3503 and 3503.5 and federally protected under the federal Migratory Bird Treaty Act

General Ecology and Distribution: Foraging and breeding habitat for burrowing owl includes native and non-native grasslands, deserts, and agricultural areas (Zarn 1974). Three habitat characteristics that comprise burrowing owl habitat include openness (lack of canopy cover), short vegetation, and burrow availability. Suitable habitat may also include areas with trees and shrubs, as long as the canopy covers less than 30 percent of the ground surface (CDFG 2012). Burrows are the essential component of burrowing owl habitat (CDFG 2012) and are often the limiting factor in occupied habitat (Zarn 1974). Burrows used by burrowing owls are usually dug by small mammals, such as California ground squirrel (*Spermophilus beecheyi*), in

loose soil, and are enlarged by the owls for nesting. Other structures used for nesting include soil under slabs of concrete, railroad ties, wood debris piles, and other anthropomorphic features (CBOC 1993). Burrows are used repeatedly for nesting, but not necessarily by the same pair of owls (Zarn 1974). During the breeding season, several burrows may be renovated, but only one will be used per pair, with non-nest (satellite) burrows created nearby for escaping, perching and observation points (Dechant, et al. 1999). Burrowing owls exhibit high site fidelity, reusing burrows year after year (CDFG 2012).

Project Area Occurrence: No nesting burrowing owl surveys were conducted as part of this habitat assessment. However, no individuals or evidence of occupied burrows were observed. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of burrowing owl.

Other Nesting Raptors: Like passerines, raptors (birds of prey), such as red-shouldered hawk (*Buteo lineatus*), peregrine falcon (*Falco peregrinus*), are protected under the Federal Migratory Bird Treaty Act and Fish and Wildlife Code 3503.5

General Ecology and Distribution: Raptors nest in a variety of substrates including, cavities, ledges and stick nests. For example, sharp-shinned hawks are small bird hunters, hunting on the edges of forests in broken forest and grassland habitats where passerines forage for seeds and insects. Nests occur in heavily forested areas near a water source. Research sites on nesting sharp-shinned hawks rarely show the nests more than a quarter of a mile away from water, whether it is a cattle tank, stream or seep (Snyder and Snyder 1975). In general, the breeding season for raptors occurs in late March through June, depending on the climate, with young fledging by early August.

Project Area Occurrence: No nesting bird surveys were conducted as part of this habitat assessment based on the length of time before breaking ground (i.e., approximately 2 years). Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

San Joaquin kit fox (*Vulpes macrotis mutica*)
Status: federally listed Endangered (USFWS 1967) and State listed Threatened (CDFG 1971). Covered under the *Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998).

General Ecology and Distribution: The SJKF occurs in grasslands, scrublands, vernal pool areas, alkali meadows and playas, and an agricultural matrix of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands (USFWS 1998). In the northern portion of their range, in San Joaquin, Alameda and Contra Costa Counties, kit foxes occur primarily in foothill grasslands, valley oak savanna, and alkali grasslands (USFWS 1998; Bell 1994). Habitats with loose-textured soils that are well drained are preferred for constructing dens (USFWS 1998). Dens are generally located in open areas with grass or scattered brush. Dens in areas with high clay content are typically modified from another animal, such as California Ground Squirrels (Orloff et al. 1986). Kit fox dens have multiple entrances, with the majority having 2 to 7 entrances. Entrances are approximately 20-25 cm high and less than 20 cm wide, with a characteristic key-hole shape (long and narrow) that helps restrict entry by larger predators such as badgers and coyotes (USFWS 2010).

In natural areas, kit fox density and population stability are highest in areas with abundant kangaroo rats (USFWS 2010). Kit fox are also known to consume other small mammal species, including rabbits and hares (*Lepus* and *Sylvilagus* spp.), ground squirrels (*Ammospermophilus* and *Spermophilus* spp.), pocket gophers (*Thomomys* sp.) and insects (USFWS 2010).

Studies in the last 20 years have shown that predation has become a significant cause of kit fox mortality (USFWS 2010). The percentage of mortality due to interactions with predators, primarily coyotes, ranged between 57 percent and 89 percent in the southern San Joaquin Valley (USFWS 2010).

Regional Population: The USFWS Recovery Plan for upland species of the San Joaquin Valley (Recovery Plan) (USFWS 1998) identifies three core areas: Carrizo Plain, Western Kern County, and Ciervo-Panoche

area. A recovery action identified in the Recovery Plan is to "protect and enhance corridors of movement of kit foxes through the Salinas-Pajaro Region and from the Salinas Valley to the Carrizo Plain and San Joaquin Valley." The project area is located north of the San Luis Reservoir. There is no connection from the project area to the west over the Diablan Range into Santa Clara Valley. There is connection over the canals to populations in the east and to the north.

Project Area Occurrence: No focused surveys for this species were conducted. However, walking transects around the southern parcel perimeter revealed no ground squirrel burrows or other fossorial burrows within the flat damluis gravelley clay loam soils (NRCS 2015) soils on which the array is proposed. Although the entire perimeter was not walked on the northern parcel, similar findings were observed. The majority of burrows occurred on the stomar clay soils (NRCS 2015) and along the fence lines. None of the burrows supported the keyhole shape typical of the SJKF. The closest reported sightings of SJKF are presented in Table 1.

Table 1: San Joaquin Kit Fox Reported Sightings

Occurrence Number	Sighting Location	UTM Coordinates (Zone-10)
414	SE corner of Intersection of I-5 and Sullivan Road. Tracks detected (1992). (6,128 feet SE)	N4123419 E670156
931	S of Bennett Valley, N of Whitney Canyon, near Garzas Creek. Den observed. (1975) (2,687 feet S)	N4122253 E666493
932	N of Bennett Valley, about 3 mi W of I-5. (1975)(11,120 feet NW)	N4126550 E664053

The project area is located on the east side of the Diablan Range and has been identified as having Moderate Suitability of habitat for San Joaquin kit fox (USFWS 2010).

IMPACTS AND MITIGATION MEASURES

This section summarizes the potential temporary biological impacts from construction activities within the study area. The analysis of these impacts is based on a single reconnaissance-level survey of the study area, a review of existing databases and literature, and personal professional experience with biological resources of the region.

CEQA Guidelines Sections 15206 and 15380 were used to determine impact significance. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state.

A species may be treated as rare or endangered even if it has not been listed under CESA or FESA. Species are designated endangered when it survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, disease or other factors.

For the purposes of this report, three principal components in the evaluation were considered:

- Magnitude of the impact (e.g., substantial/not substantial)
- Uniqueness of the affected resource (rarity)
- Susceptibility of the affected resource to disturbance (sensitivity)

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small-magnitude impact (e.g., disturbing a nest) to a state or federally listed species would be considered significant because the species is at low population levels and is presumed to be susceptible to disturbance. Conversely, a common habitat such as non-native grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact (e.g., removal of extensive vegetation) would be required for it to be considered a significant impact.

Wetlands and Waters of the U.S and State:
Impact: Several Northern claypan vernal pool type wetlands occur within the project study area. This is both a wetland type and a special status vegetation community type. The recommendation is to avoid any wetlands. If wetlands cannot be avoided then mitigation for the loss of any wetlands is required. Prior to any development a formal delineation of wetlands and waters of the U.S. and state should be completed for the proposed development area.

Mitigation Measure: Impacts to wetlands require a Section 404 permit from the Corps and a 401 water quality certification from the RWQCB. Compensation for the loss of wetland can be achieve through purchase of credits in approved local wetland mitigation bank, if one is available, or through creation of new wetlands on-site of off-site. If new wetlands are creation either on-site or off-site a wetland mitigation and monitoring plan must be developed and should include:

1. Objectives. A description of the resource type(s) and amount(s) that will be provided, the method of compensation (restoration, establishment, preservation etc.), and how the anticipated functions of the mitigation project will address watershed needs.
2. Site selection. A description of the factors considered during the site selection process. This should include consideration of watershed needs, onsite alternatives where applicable, and practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the mitigation project site.
3. Site protection instrument. A description of the legal arrangements and instrument including site ownership, that will be used to ensure the long-term protection of the mitigation project site.
4. Baseline information. A description of the ecological characteristics of the proposed mitigation project site. This may include descriptions of historic and existing plant communities, historic and existing hydrology, soil conditions, a map showing the locations of the impact and mitigation site(s) or the geographic coordinates for those site(s), and other characteristics

appropriate to the type of resource proposed as compensation. The baseline information should include a delineation of waters of the United States on the proposed mitigation project site.

5. Mitigation work plan. Detailed written specifications and work descriptions for the mitigation project, including: the geographic boundaries of the project; construction methods, timing, and sequence; source(s) of water; methods for establishing the desired plant community; plans to control invasive plant species; proposed grading plan; soil management; and erosion control measures.
7. Maintenance plan. A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.
8. Performance standards. Ecologically-based standards that will be used to determine whether the mitigation project is achieving its objectives.
9. Monitoring requirements. A description of parameters monitored to determine whether the mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting monitoring results to the DE must be included.
10. Long-term management plan. A description of how the mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management.
11. Adaptive management plan. A management strategy to address unforeseen changes in site conditions or other components of the mitigation project, including the party or parties responsible for implementing adaptive management measures.
12. Financial assurances. A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the mitigation project will be successfully completed, in accordance with its performance standards.

Special-Status Plants

Impacts: Five special status plants have the potential to occur within the project area based on the presence of potential suitable habitat and known occurrences within the area based on the CNDDB searches. These are: alkali milk-vetch, round-leaved filaree, small-flowered morning-glory, little mousetail, and prostrate vernal pool navarretia.

Mitigation Measure: Prior to construction protocol-level surveys for special status plants must be conducted in March and April to cover the blooming period for special status plants. If any special status plants are found during surveys mitigation will be to avoid these populations. If avoidance is not feasible or practicable the following mitigation measures will be implemented:

If special plant species are found on the project site, then the project applicant shall prepare a mitigation plan that describes the avoidance or compensatory mitigation measures that would be implemented for these populations. As a performance standard, the plan shall provide for no net loss in the quantity or quality of plant populations. The mitigation plan shall be submitted to the USFWS and/or CDFW for approval for federal and state-listed plants, respectively. The mitigation plan shall include the mitigation measures, which are adopted from the CNPS Policy on *Mitigation Guidelines Regarding Impacts to Rare, Threatened and Endangered Plants* (CNPS 1998), described below, or equally effective alternative measures:

1. Compensatory mitigation shall include replanting on site or propagation of plants at a nearby conservation site through seeding or translocation. Mitigation ratios shall be sufficient to achieve performance criteria of no net loss of plants. Post-project monitoring shall verify that avoidance and mitigation measures are successful.
2. If mitigation for impacts to special status plants occurs at a non-bank site, preference would be given to locating the mitigation site in an area as close to the project site as possible. If mitigation sites are not available in the vicinity of the project site, mitigation for listed plants may be accomplished at suitable site in Stanislaus County that supports the impacted plant population.

3. A long-term mitigation, monitoring, and management plan shall be developed for plant mitigation and submitted to the USFWS and/or CDFG for approval prior to initiation of construction activities. Mitigation sites shall be monitored for five years after installation. Depending on the actual case-by-case circumstances listed plants within the Project footprint may be salvaged and/or transplanted to a mitigation site approved by the CDFW and/or USFWS. When feasible, seed from plants unavoidably impacted shall be collected and preserved for planting on an approved mitigation site.

Vegetation Community
Impact: Impacts to northern claypan vernal pools is covered in the impacts for wetlands, above.

Mitigation Measure: Mitigation for impacts to northern claypan vernal pools is covered in the mitigation for wetlands, above.

Wildlife Movement Corridors
Impact: The placement of pilings in the ground will not impeded movement for wildlife, as they can move in and amongst the pilings. Fencing around the perimeter of the solar array shall be constructed such that special-status animals can get underneath (See below, under San Joaquin kit fox). Larger animals can go around the fenced areas of the arrays. As a result, no loss of movement corridors will occur from the project.

Vernal Pool Invertebrates
Impact: If the proposed solar array is placed in areas of northern hardplan clay vernal pools, impacts to special status invertebrates, such as vernal pool fairy shrimp and tadpole shrimp, may occur from direct effects to vernal pools and their hydrology. Vernal pool fairy shrimp are presumed present in pools based on the presence of suitable habitat.

Mitigation Measure: To the maximum extent practicable, impacts on shrimp habitat as a result of the proposed project will be avoided by redesigning the project away from the vernal pools and implementing the following measures, based on existing mitigation standards (U.S. Fish and Wildlife Service 1996).

- Establish a 250-foot buffer from the outer edge of all hydric vegetation associated with vernal pools and vernal swales. Buffer reductions may be approved for all or portions of the site whenever reduced setbacks will maintain the hydrology of the vernal pool and achieve the same or greater habitat values as would be achieved by the 250-foot buffer.
- Activities inconsistent with the maintenance of vernal areas within the buffers, including all portions of the onsite watershed, will be prohibited. Inconsistent activities include altering existing topography; placing new structures within the buffers; dumping, burning, and/or burying garbage or any other wastes or fill materials; building new roads or trails; removing or disturbing existing native vegetation; installing storm drains; and using pesticides or other toxic chemicals.
- Buffers will be marked by brightly colored fencing or flagging throughout the construction process.
- Construction personnel will participate in a USFWS-approved worker environmental awareness program. A qualified biologist approved by USFWS will inform all construction personnel about the life history of listed vernal pool invertebrates, the importance of avoiding their habitat, and the measures adopted by the project to avoid impacts.

Birds
Impact: Several passerine (perching birds) species observed on site, such as California horned lark, build nests on the ground in barren soils. Disturbance during the nesting season (February 15- August 15) may result in the potential nest abandonment and mortality of young, which is considered a "take" of an individual.

Mitigation Measure: The following mitigation measures should be followed in order to avoid or minimize impacts to passerines and raptors that may potentially nest in the grasslands:

1) Grading or removal of nesting habitat should be conducted outside the nesting season, which occurs between approximately February 15 and August 15.

2) If grading between August 15 and February 15 is infeasible and groundbreaking must occur within the nesting season, a pre-construction nesting bird (both passerine and raptor) survey of the grasslands shall be performed by a qualified biologist within 7 days of ground breaking. If no nesting birds are observed no further action is required and grading shall occur within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey.
3) If active bird nests (either passerine and/or raptor) are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest until the young have fledged, as determined by a qualified biologist.
4) The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines and 200-300 feet for raptors), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFW.
5) To delineate the buffer zone around a nest, orange construction fencing shall be placed at the specified radius from the nest within which no machinery or workers shall intrude.
6) After the fencing is in place there will be no restrictions on grading or construction activities outside the prescribed buffer zones.

Western Burrowing Owl
Impact: Depending on the location of the solar array, there is potential for burrows supporting burrowing owl to be impacted. Although none were observed during the site visit, which was conducted during the breeding season, a protocol level survey (CDFW 2012) for burrowing owl was not conducted.

Mitigation: Prior to construction protocol-level surveys for burrowing owl must be conducted during the nesting season (February 15 – August 31). If any owls and their burrows are found during the surveys, project redesign to avoid individuals and their burrows is recommended.

The following is based on the CDFG Burrowing Staff Report (2012) and consists of *avoiding individuals and establishing buffers* around occupied burrows:

A. A primary goal is to design and implement projects to seasonally and spatially avoid negative impacts and disturbances that could result in take of burrowing owls, nests, or eggs. Other avoidance measures may include but not be limited to:
    - Avoid disturbing occupied burrows during the nesting period, from 1 February through 31 August.
    - Avoid impacting burrows occupied during the non-breeding season by migratory or non-migratory resident burrowing owls.
    - Avoid direct destruction of burrows through chaining (dragging a heavy chain over an area to remove shrubs), disking, cultivation, and urban, industrial, or agricultural development.
    - Develop and implement a worker awareness program to increase the on-site worker's recognition of and commitment to burrowing owl protection.
    - Place visible markers near burrows to ensure that farm equipment and other machinery does not collapse burrows.
    - Do not fumigate, use treated bait or other means of poisoning nuisance animals in areas where burrowing owls are known or suspected to occur (e.g., sites observed with nesting owls, designated use areas).
    - Restrict the use of treated grain to poison mammals to the months of January and February.

B. The following table presents the recommended restricted activity dates and setback distances in meters by level of disturbance for burrowing owls (CDFG 2012) and is determined on a site by site basis in consultation with CDFW

Table 2: Burrowing Owl Buffer Zones around Nesting Sites per Season

		Level of Disturbance		
Location	Time of Year	Low	Med	High
Nesting sites	April 1-Aug 15	200 m	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

Based on existing vegetation, human development, and land uses in an area, resource managers may decide to allow human development closer to these area/sites than recommended above. However, if it is decided to allow activities closer than the setback distances recommended, a broad-scale, long-term, scientifically-rigorous monitoring program ensures that burrowing owls are not detrimentally affected by alternative approaches. Other minimization measures include eliminating actions that reduce burrowing owl forage and burrowing surrogates (e.g. ground squirrel), or introduce/facilitate burrowing owl predators. Actions that could influence these factors include reducing livestock grazing rates and/or changing the timing or duration of grazing or vegetation management that could result in less suitable habitat.

C. If burrowing owls are observed on the site and development will result in take of burrows, mitigate for permanent impacts to nesting, occupied and satellite burrows and burrowing owl habitat with (a) permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and (b) sufficiently large acreage, and presence of fossorial mammals. The mitigation lands may require habitat enhancements including enhancement or expansion of burrows for breeding, shelter and dispersal opportunity, and removal or control of population stressors. If the mitigation lands are located adjacent to the impacted burrow site, ensure the nearest neighbor artificial or natural burrow clusters are at least within 210 meters (CDFG 2012).

San Joaquin kit fox

Potential Impact: Although no surveys were conducted as part of this assessment, SJKF have been reported in the area. The population size in this region is unknown at this time. As a result, we assume presence based on previous sightings. The project may result in short-term effects to include displacement of foxes from portions of the Project where they are known to be present, changes in daily movement and hunting patterns of individual foxes, removal of denning sites, and potential injury or death to individual kit foxes due to construction activities.

Mitigation Measure: The project site is within the range of San Joaquin kit fox and discussions with the USFWS should be conducted prior to any development. The following has been adopted from the language from the U.S. Fish and Wildlife Service *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999a) and the Topaz Solar Farm San Joaquin kit fox Conservation and Monitoring Plan (Althouse and Mead 2011).

To prevent take of individuals:

- Preconstruction surveys shall be conducted within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia in and surrounding workstations. A qualified biologist, as approved by the USFWS, shall conduct the survey for potential kit fox dens 14 to 30 days before construction begins. All identified potential dens shall be monitored for evidence of kit fox use by placing an inert tracking medium at den entrances and monitoring for at least 3 consecutive nights. If no activity is detected at these den sites, they shall be closed following guidance established in USFWS Standardized Recommendations document.

- If kit fox occupancy is determined at a given site, the construction manager should be immediately informed that work should be halted within 200 feet of the den and the USFWS contacted. Depending on the den type, reasonable and prudent measures to avoid effects to kit foxes could include seasonal limitations on project construction at the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den a week later to determine species presence or absence.
- To minimize the possibility of inadvertent kit fox mortality, project-related vehicles shall observe a maximum 20 miles per hour speed limit on private roads in kit fox habitat. Nighttime vehicle traffic shall be kept to a minimum on non-maintained roads. Off-road traffic outside the designated project area shall be prohibited in areas of kit fox habitat.
- To prevent accidental entrapment of kit fox or other animals during construction, all excavated holes or trenches greater than 2 feet deep shall be covered at the end of each work day by suitable materials, fenced, or escape routes constructed of earthen materials or wooden planks shall be provided. Before filling, such holes shall be thoroughly inspected for trapped animals.
- All food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers and removed daily from the project area.
- To prevent harassment and mortality of kit foxes or destruction of their dens, no pets shall be allowed in the project area.

To reduce impacts on San Joaquin kit fox from the proposed project:

- A 5-6 inch gap shall be provided at the bottom of all perimeter fencing. This will allow for kit fox passage.
- Placement of solar array will be adjusted to avoid any potential dens.
- The ground under and between the solar arrays would be vegetated with a dominant cover of grasses and herbs to promote a more natural habitat that supports kit fox prey. Vegetation height would be controlled by pulse grazing sheep or other means not hazardous to kit fox.
- Management practices will avoid the use of rodenticides.
- Worker education programs regarding SJKF identification, life history and habits, population status, and protection measures, and penalties for unauthorized take of SJKF will be provided for all construction and operational employees.
- Project night lighting will be minimized so as to not illuminate open space areas.

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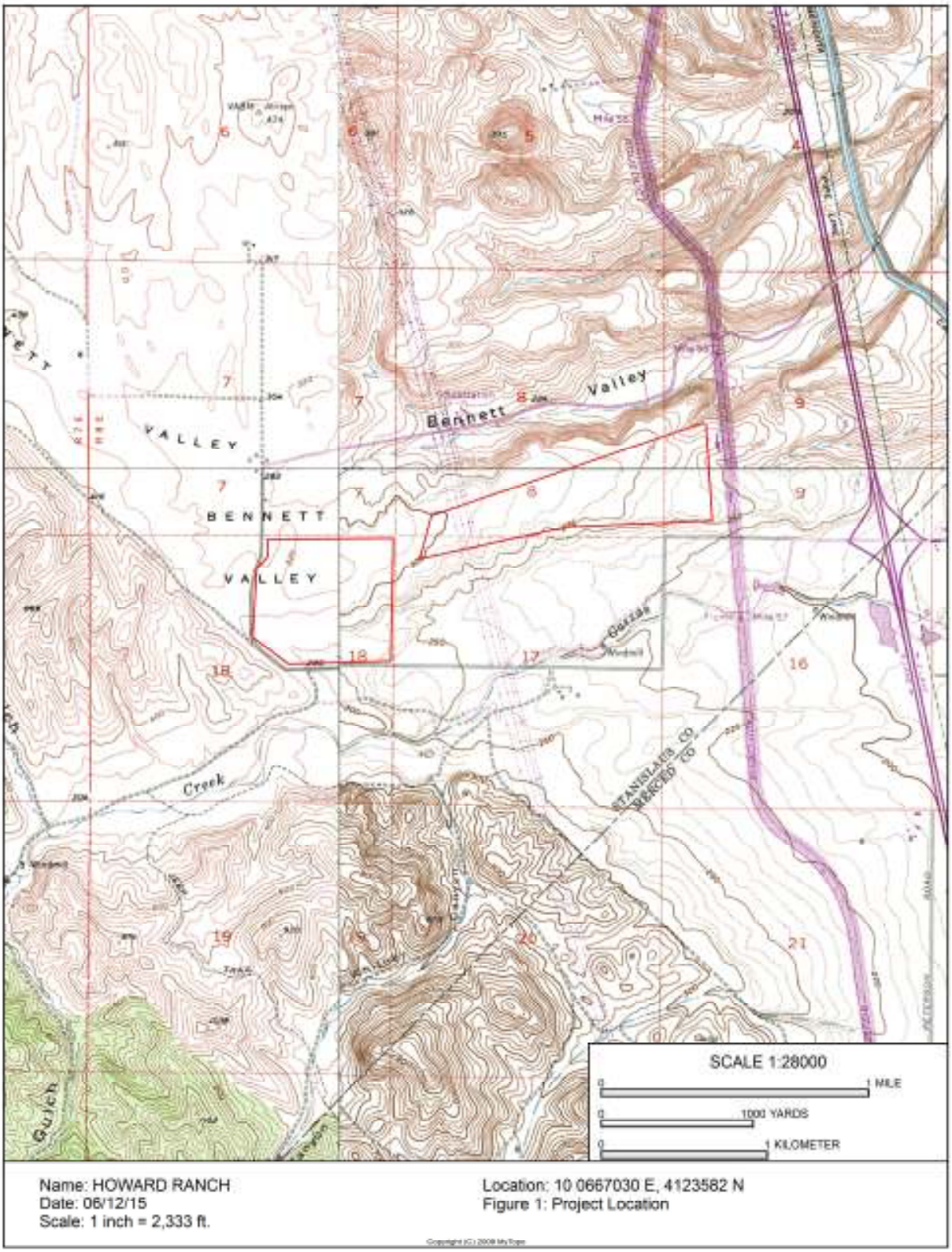

Figure 1: Project Location

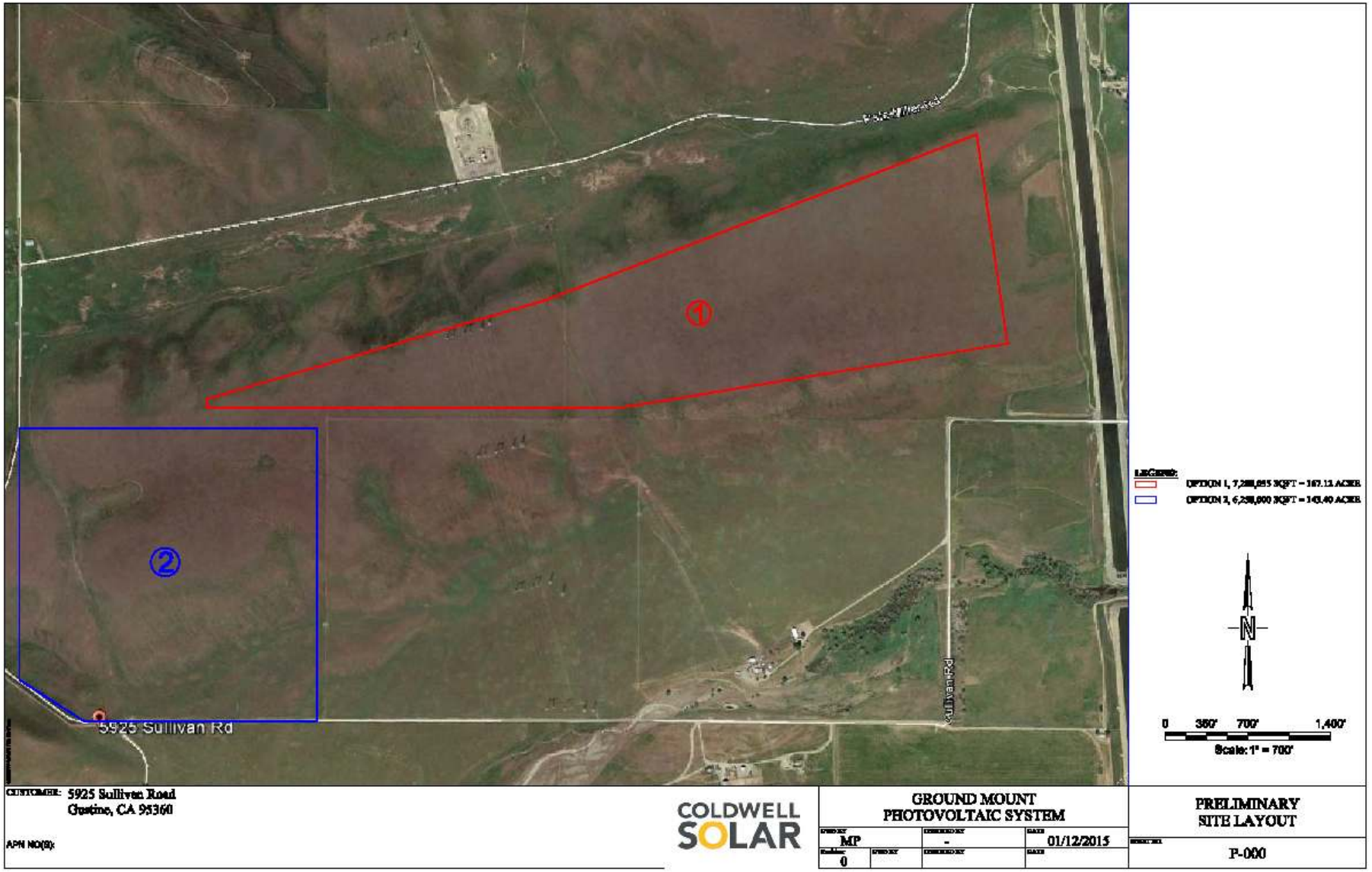

Fig. 2: Preliminary site layout.

Figure 3. Parcel 1 looking northwest.

Figure 4. Parcel 2 looking S from NE corner.

Figure 5. Parcel 2 with wetlands on S half.

Figure 6: Parcel 2 with burrows and wetlands on S half.

APPENDIX A: FEDERAL, STATE AND LOCAL PLANS, POLICIES, REGULATIONS AND ORDINANCES

Federal Endangered Species Act - U.S. Fish and Wildlife Service

Pursuant to ESA, the U.S. Fish and Wildlife Service (USFWS) has regulatory authority over federally listed species. Under ESA, a permit to "take" a listed species is required for any federal action that may harm an individual of that species. Take is defined under Section 9 of ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Under federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Section 7 of ESA requires all federal agencies to consult with USFWS to ensure that their actions are not likely to "jeopardize the continued existence" of any listed species or "result in the destruction or adverse modification" of designated critical habitat. No federal approvals or other actions are anticipated as being required to implement the project at this time. Therefore, consultation under Section 7 of ESA is not expected. However, if USACE determines that wetlands and/or other waters of the United States on the project site are subject to protection under Section 404 of the CWA, or any other federal action becomes necessary, consultation under Section 7 of ESA would be required.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain a permit for incidental take under Section 10(a) of ESA. Section 10(a) of ESA allows USFWS to permit the incidental take of listed species if such take is accompanied by a habitat conservation plan (HCP) that includes components to minimize and mitigate impacts associated with the take. The permit is known as an incidental take permit. The project proponent must obtain a permit before conducting any otherwise-lawful activities that would result in the incidental take of a federally listed species.

Sections 404 and 401 of the Clean Water Act - U.S. Army Corps of Engineers

USACE regulates the discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. Waters of the United States are defined as waters where use, degradation, or destruction could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are somehow connected to any of these waters or their tributaries. Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands falling under USACE jurisdiction must demonstrate the presence of three specific wetland parameters: hydric soils, hydrophytic vegetation, and sufficient wetland hydrology. Generally, wetlands include swamps, marshes, bogs, and similar areas. Lakes, rivers, and streams are defined as "other waters." Jurisdictional limits of these features are typically noted by the ordinary high-water mark (OHWM). The OHWM is the line on the shore or bank that is established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in soils, lack of woody or terrestrial vegetation, the presence of litter or debris, or other characteristics of the surrounding areas.

Isolated ponds or seasonal depressions had been previously regulated as waters of the United States. However, in Solid Waste Agency of Northwestern Cook County (SWANCC) v. United States Army Corps of Engineers et al. (January 8, 2001), the U.S. Supreme Court ruled that certain "isolated" wetlands (e.g., nonnavigable, isolated, and intrastate) do not fall under the jurisdiction of the CWA and are no longer under USACE jurisdiction (although isolated wetlands are regulated by the State of California under the Porter-Cologne Water Quality Control Act—see discussion below). Some circuit courts (e.g., U.S. v. Deaton, 2003; U.S. v. Rapanos, 2003; Northern California River Watch v. City of Healdsburg, 2006), however, have ruled that the SWANCC opinion does not prevent CWA jurisdiction if a "significant nexus" such as a hydrologic connection exists, whether it be human-made (e.g., roadside ditch) or natural tributary to navigable waters, or direct seepage from the wetland to the navigable water, a surface or underground hydraulic connection, an ecological connection (e.g., the same bird, mammal, and fish populations are supported by both the wetland

and the navigable water), and changes to chemical concentrations in the navigable water due to water from the wetland.

Section 404 prohibits the discharge of dredged or fill material into waters of the United States (including wetlands) without a permit from USACE. With respect to the proposed project, the discharge of dredged or fill material includes the following activities:

- placement of fill that is necessary for the construction of any structure or infrastructure in a water of the United States;
- the building of any structure, infrastructure, or impoundment requiring rock, sand, dirt, or other material for its construction;
- site-development fills for recreational, industrial, commercial, residential, or other uses; and
- construction of causeways or road fills.

The regulations and policies of USACE, the U.S. Environmental Protection Agency (EPA), and USFWS mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives (to filling wetlands) exist. If the placement of fill into waters of the U.S., including wetlands, meets certain criteria the project be permitted under one of the Nation Wide Permits (NWP), which is an expedited permit process.

Section 401 of the CWA requires an applicant for any federal permit that may result in a discharge into waters of the United States to obtain a certification from the state that the discharge will comply with provisions of the CWA. The regional water quality control boards (RWQCBs) administer this program. Any condition of water quality certification would be incorporated into the USACE permit. The state has a policy of no net loss of wetlands and typically requires mitigation for impacts on wetlands before it will issue a water quality certification.

California Endangered Species Act – CESA

The California Endangered Species Act (CESA, FGC §§ 2050–2116) is administered by DFW. The CESA prohibits the "taking" of listed species except as otherwise provided in state law. The CESA includes FGC Sections 2050–2116, and policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat. The CESA requires mitigation measures or alternatives to a proposed project to address impacts to any State listed endangered, threatened or candidate species, or if a project would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy. Section 86 of the FGC defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Unlike the FESA, CESA applies the take prohibitions to species under petition for listing (state candidates) in addition to listed species. Section 2081 of the FGC expressly allows CDFW to authorize the incidental take of endangered, threatened, and candidate species if all of the following conditions are met:

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- Issuance of the permit will not jeopardize the continued existence of the species.
- The permit is consistent with any regulations adopted in accordance with §§ 2112 and 2114 (legislature-funded recovery strategy pilot programs in the affected area).
- The applicant ensures that adequate funding is provided for implementing mitigation measures and monitoring compliance with these measures and their effectiveness.

The CESA provides that if a person obtains an incidental take permit under specified provisions of the FESA for species also listed under the CESA, no further authorization is necessary under CESA if the federal permit satisfies all the requirements of CESA and the person follows specified steps (FGC § 2080.1).

Waters of the State - California Regional Water Quality Control Board
The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the USACE under Section 404. "Waters of the State" are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact "Waters of the State," are required to comply with the terms of the Water Quality Certification determination.

If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to "Waters of the State," the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat - California Department of Fish and Game
Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFG under Sections 1600-1616 of the State Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

Appendix B: Potentially Occurring Special-Status Plant Species in the Study Area

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Astragalus tener var. *tener* Alkali milk-vetch	-/-/1B	Alkaline playas, valley and foothill grassland (adobe clay), vernal pools. Blooms March to June. Elevation 1-60m.	Low. Potential grassland habitat. Not observed during May 29, 2015 survey. Additional surveys recommended in March/April.
Atriplex cordulata var. *cordulata* Heartscale	-/-/1B	Saline or alkaline chenopod scrub, meadows and seeps, valley and foothill grassland (sandy). Blooms April to October. Elevation 0-560m.	None. Typical habitat not on site.
Atriplex persistens Vernal pool smallscale	-/-/1B	Alkaline vernal pools. Blooms June to October. Elevation 10-115m.	None. Potential grassland habitat. Not observed during May 29, 2015 survey.
California macrophylla Round-leaved filaree	-/-/1B	Clay soils in cismontane woodland, valley and foothill grassland. Blooms March to May. Elevation 15-1200m.	High. Potential grassland habitat on site. Recorded occurrences from 3 miles SW of Gustine. Additional surveys recommended in March/April.
Chloropyron molle ssp. *hispidum* Hispid bird's-beak	-/-/1B	Alkaline meadows and seeps, playas, valley and foothill grassland. Blooms June to September. Elevation: 1-155m.	None. Typical habitat not on site. Not observed during May 29, 2015 survey.
Convolvulus simulans Small-flowered morning-glory	-/-/4	Clay, serpentinite seeps in chaparral (openings), coastal scrub, valley and foothill grassland. Blooms March to July. Elevation: 30-700m.	Low. Potential grassland habitat. Not observed during May 29, 2015 survey. Additional surveys recommended in March/April.
Delphinium californicum ssp. *interius* Hospital Canyon larkspur	-/-/1B	Chaparral (openings), cismontane woodland (mesic), coastal scrub. Blooms April to June. Elevation: 195-1095m.	None. No habitat on site.
Eryngium racemosum Delta button-celery	-/CE/1B	Riparian scrub in vernally mesic clay depressions. Blooms June to October. Elevation: 3-30m.	None. No habitat on site.
Eryngium spinosepalum Spiny-sepaled button-celery	-/-/1B	Valley and foothill grassland, vernal pools. Blooms April to June. Elevation: 80-620m.	None. Not observed during May 29, 2015 survey.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Etriplex joaquinana San Joaquin spearscale	-/-/1B	Alkaline chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Blooms April to October. Elevation: 1-835m.	None. Potential grassland habitat. Not observed during May 29, 2015 survey
Fritillaria agrestis Stinkbells	-/-/4	Clay, sometimes serpentinite in chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Blooms March to June. Elevation: 10-1555m.	None. No habitat on site.
Lessingia tenuis Spring lessingia	-/-/4	Openings in chaparral, cismontane woodland, lower montane coniferous forest. Blooms May to July. Elevation: 300-2150m.	None. No habitat on site.
Malcothamnus arcuatus Arcuate bush-mallow	-/-/1B	Chaparral, cismontane woodland. Blooms April to September. Elevation: 15-355m.	None. No habitat on site.
Malacothamnus hallii Hall's bush-mallow	-/-/1B	Chaparral, coastal scrub. Blooms May to October. Elevation: 10-760m.	None. No habitat on site.
Myosurus minimus ssp. *apus* Little mousetail	-/-/3	Valley and foothill grassland, vernal pools (alkaline). Blooms March to June. Elevation: 20-640m.	Low. Potential habitat on site. Additional surveys recommended in March/April.
Navarretia prostrata Prostrate vernal pool navarretia	-/-/1B	Mesic coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools. Blooms April to July. Elevation: 3-1210m.	Low. Potential habitat on site. Additional surveys recommended in March/April.
Sagittaria sanfordii Sanford's arrowhead	-/-/1B	Assorted shallow freshwater marshes and swamps. Blooms May to November. Elevation: 0-650m.	None. No habitat on site.
Stuckenia filiformis ssp. *alpina* Slender-leaved pondweed	-/-/2B	Assorted shallow freshwater marshes and swamps. Blooms May to July. Elevation: 300-2150m.	None. No habitat on site.
SPECIAL STATUS/SENSITIVE NATURAL COMMUNITIES			
Northern Hardpan Vernal Pool			Yes
Great Valley Cottonwood Riparian Forest			None

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS rank	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
Sycamore Alluvial Woodland			None

NOTES:

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered

FT = federally listed Threatened

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered

CR = California listed as Rare

CALIFORNIA NATIVE PLANT SOCIETY -

Rank 1B: Plants rare and endangered in California and elsewhere

Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere

Rank 3: Plants about which additional data are needed- a review list.

Rank 4: Plants of limited distribution – a watch list.

Appendix C: Potentially Occurring Special-Status Animal Species in the Project Area

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
FEDERAL			
Invertebrates			
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/-	Inhabits vernal pools in grasslands in the Central Valley, Coast Ranges and South Coast Mountains. Active between December and May.	Moderate: suitable habitat present in vernal pools.
vernal pool tadpole shrimp *Lepidurus packardi*	FE/-	Inhabits vernal pools in grassland habitats in the Central Valley between Shasta County and Merced County. Eggs hatch within a month of inundation, adults present until pools dry in the spring.	Moderate: suitable habitat present in vernal pools.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/-	Riparian and oak savanna habitats. Requires elderberry (*Sambucus mexicanus*) as host plants. Inhabits streamsides in the Central Valley below 3,000 feet.	None: no suitable habitat present.
Fish			
Delta smelt *Hypomesus transpacificus*	FT/-	Sacramento-San Joaquin delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10ppt. Most often at salinities <2ppt.	None: no suitable habitat present.
steelhead - Central Valley ESU *Onchorhynchus mykiss*	FT/SSC	Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	None: no suitable habitat present.
Amphibians			
California tiger salamander *Ambystoma californiense*	FT (Central Valley/ST	Breeds in temporary or semi-permanent pools. Seeks cover in rodent burrows in grasslands and oak woodlands.	Moderate: Upland habitat available. No breeding habitat present.
California red-legged frog *Rana draytonii*	FT/ SSC	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland habitat especially during the wet winter months.	None: no suitable habitat present.
Reptiles			
Blunt-nosed leopard lizard *Gambelia silus*	FE	Semi-arid grasslands, alkali flats of San Joaquin valley and foothills on sandy, gravelly or loamy soils. Burrows of small mammals are often used.	None: Outside species range.
Giant garter snake *Thamnophis gigas*	FT/-	Requires adequate water during early-spring through mid-fall, emergent, herbaceous wetland vegetation, such as cattails and bulrushes; grassy banks and openings in waterside vegetation for basking; and higher elevation uplands for cover and refuge from flood waters during the winter dormant season	None: no suitable habitat.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Mammals			
Fresno kangaroo rat *Dipodomys nitratoides exilis*	FE	Occupy sands and saline sandy soils in chenopod scrub and annual grasslands.	None: Outside species range.
San Joaquin kit fox *Vulpes macrotis mutica*	FE/ST	Range includes annual grassland, saltbush scrub and oak savanna at the valley/mountain interface within the Central Valley.	High: occurrences reported within 0.5 mi.
STATE			
Amphibians			
western spadefoot toad *Spea hammondii*	SC/ SSC	Breeds in temporary pools following winter and spring rains; larvae transform within 3 - 11 weeks; aestivates in burrows in loose soils. Observed N of parcel 1.	Moderate: vernal pools may provide breeding habitat.
Birds			
Tricolored blackbird *Agelaius tricolor*	-/SE	Requires open water, protected nesting substrate and foraging	None: no suitable nesting habitat present.
burrowing owl *Athene cunicularia hypugea*	SC, MB/ SSC	Nests in open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Prefers short grasses and moderate inclined hills.	High: suitable potential habitat present.
loggerhead shrike *Lanius ludovicianus*	SC, MB/SSC	Nests in woodland and scrub habitats at margins of open grasslands. Often uses lookout perches such as fence posts. Resident and winter visitor in lowlands and foothills throughout California. Observed adjacent to site.	None: no suitable nesting habitat present.
American peregrine falcon *Falco peregrinus anatum*	MB	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers or marshes. Forages on shorebirds and small passerines. Observed adjacent to site.	None: no suitable habitat present.
Swainson's hawk *Buteo swainsoni*	FSC/ST	Nests in scattered trees in open areas, with nests usually high in the tree. Nests are reused annually and are made of sticks, with a diameter of 21-28 inches. Observed 5 miles N of site.	None: no suitable nesting habitat present.
Mammals			
American badger *Taxidea taxus*	-/SSC	Inhabits open grasslands, savannas and mountain meadows near timberline. Requires abundant burrowing mammals, their principal food source, and loose, friable soils.	Moderate: suitable potential habitat present. No dens observed during survey.

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened
FC = federal candidate for listing
FSC = federal Species of Concern
MB = Migratory Bird Treaty Act.

CALIFORNIA DEPT. OF FISH AND WILDLIFE

SE = California listed Endangered
ST = California listed as Threatened
SSC = Species of Special Concern

Appendix D: Plant species observed at the Project Site
May 29, 2015.

Scientific Name	Common Name
Achyachaena mollis	Blow wives
Amaranthus sp.	Amaranth*
Amsinckia menziesii	Fiddleneck
Avena barbata	Wild oats*
Avena fatua	Oats*
Brassica nigra	Black mustard*
Brodiaea elegans	Elegant brodiaea
Bromus caroli-henrici	Weedy brome*
Bromus diandrus	Ripgut brome*
Bromus hordaeceus	Soft chess*
Bromus madritensis ssp. *rubens*	Red brome*
Capsella bursa-pastoris	Shepherd's purse*
Centaurea calcitrapa	Purple starthistle*
Centromadia fitchii	Spikeweed
Centromadia pungens ssp. *pungens*	Common tarweed
Convolvulus arvensis	Bindweed*
Croton setiger	Doveweed*
Deschampsia danthonioides	Annual hairgrass
Erodium botrys	Broad-leaved filaree*
Erodium cicutarium	Red-stemmed filaree*
Eryngium castrense	Great Valley coyote-thistle
Festuca myuros	Rattail fescue*
Festuca perennis	Ryegrass*
Grindelia camporum	Great Valley gumplant
Heliotropium curassavicum	Salt heliotrope
Hesperevax sp.	evax
Hirschfeldia incana	Short-pod mustard*
Holocarpha virgata ssp. *virgata*	Yellow flower tarweed
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley*
Hordeum murinum ssp. *leporinum*	Hare barley*
Hypochaeris radicata	Rough cat's-ear*
Lasthenia sp.	Goldfields
Lepidium nitidum	Shining pepperweed
Lotus corniculatus	Bird's-foot trefoil*
Lythrum hyssopifolium	Hyssop loosestrife*
Malva sp.	Mallow*
Medicago polymorpha	Bur clover*
Plantago coronopus	Cut-leaf plantain*
Polypogon monspeliensis	Rabbitsfoot grass*
Rumex crispus	Curly dock*
Senecio vulgaris	Common groundsel*
Trifolium sp.	Clover
Triteleia hyacinthina	White brodiaea
Xanthium strumarium	Cocklebur*

Note: Species with an * are non-native

Appendix E: Wildlife Species Observed at the Project Site – May 26, 2015

Scientific Name	**Common Name**
Aquila chrysaetos	Golden eagle (dead)
Eremophila alpestris actia	California horned lark
Cathartes aura	Turkey vulture
Spermophilus beecheyi	California ground squirrel
Corvus brachyrhynchos	American crow
Sturnella neglecta	Western meadowlark
Tyrannus verticalis	Western kingbird

Note: In order observed, not in evolutionary order.

A CULTURAL RESOURCES EVALUATION OF THE GROUND MOUNT PHOTOVOLTAIC SYSTEM, SULLIVAN ROAD, GUSTINE, STANISLAUS COUNTY, CA

SUBMITTED BY

William Roop, ARCHAEOLOGICAL RESOURCE SERVICE

SUBMITTED FOR

Dave Hood, Coldwell Solar, Inc.

August 27, 2015 **A.R.S. Project 15-020**

INTRODUCTION

As requested and authorized, Archaeological Resource Service has conducted an archaeological evaluation of the parcel described below. The evaluation consisted of six separate aspects:

1. A check of the information on file with our office and the Regional Office of the California Historical Resources Information System, to determine the presence or absence of previously recorded historic or prehistoric cultural resources,
2. A check of appropriate historic references to determine the potential for historic era archaeological deposits, and;
3. Contact with the Native American Heritage Commission to determine the presence or absence of listed Sacred Lands within the project area;
4. Contact with all appropriate Native American organizations or individuals designated by the Native American Heritage Commission as interested parties for the project area;
5. A surface reconnaissance of all accessible parts of the project area to locate any visible signs of potentially significant historic or prehistoric cultural deposits.
6. Preparation of a report describing the work accomplished, the results of the research, and making appropriate recommendations for further action, if warranted.

PROJECT DESCRIPTION

The proposed project would construct a solar energy facility on a large, gently sloping terrace between Bennett Valley to the north and Garzas Creek to the south. The project includes the installation of solar panels encompassing approximately 153 acres within a fenced area. Ground disturbance is expected during installation. The project area will also be fenced within the larger fenced fields. The County of Stanislaus has determined that a cultural resource study is necessary to determine if the proposed project will cause any impacts to potentially significant historic or prehistoric cultural resources. ARS was retained to conduct the cultural resource study of the area to be affected by the project and to provide further recommendations if warranted by the identification of potentially significant cultural resources.

PROJECT LOCATION

The project area is located in an unincorporated area of Stanislaus County near Sullivan Road, near Gustine, Stanislaus County, California. The project area consists of about 153 acres of

grazing land within two larger parcels totaling over 200 acres in size. The parcels are bounded by grazing land on all sides. Sullivan Road defines the boundary of the parcel containing the solar array on the west side and along a short stretch at the southeast. Pete Miller Road runs along the parcel boundary on the north side. The California Aqueduct borders the parcel on the east.

The project area is located in sections 7, 8, and 18 of Township 8 South, Range 8 East, Mt. Diablo Base and Meridian. The Universal Transverse Mercator Grid coordinates to the approximate center of the project area, as determined by measurement from the Howard Ranch, Calif. USGS 7.5' Quadrangle Map are:

4124000 Meters North,

667050 Meters East, Zone 10

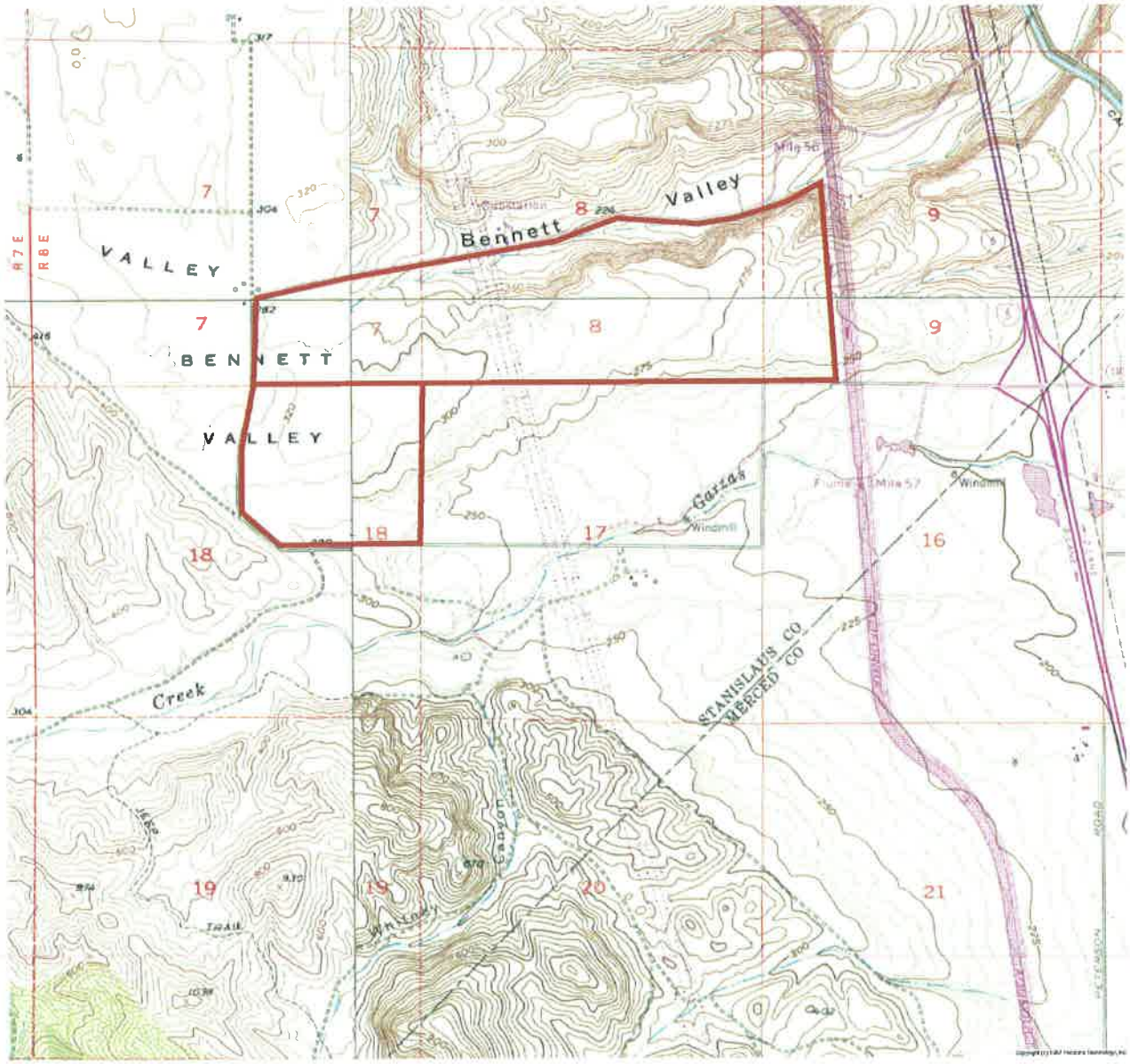

FIGURE 1 -- PROJECT LOCATION

The project area covers about 153 acres within the two parcels. The area lies on four USGS 7.5' Quadrangle Maps: Orestimba Peak (northwest), Newman (northeast), Crevison Peak (southwest) and Howard Ranch (southeast).

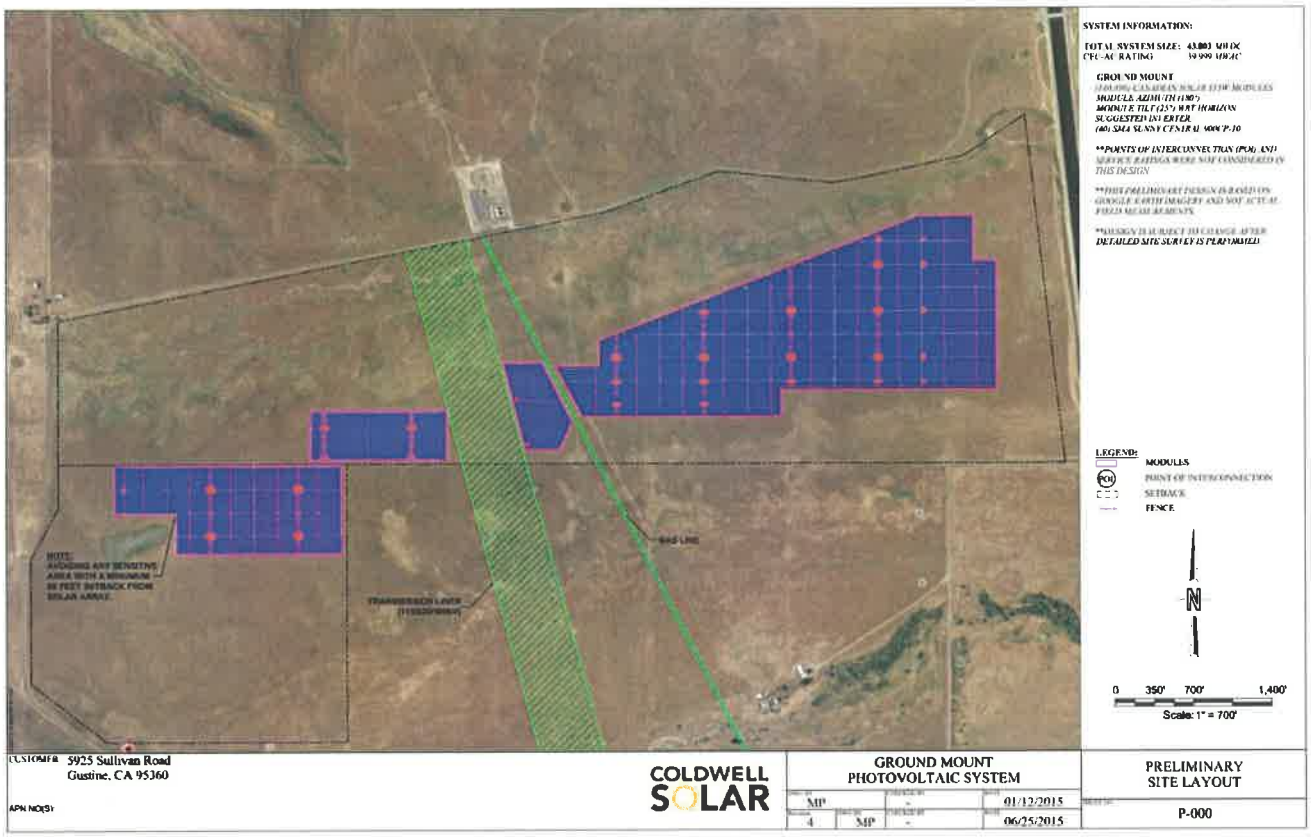

FIGURE 2 -- THE PROPOSED SOLAR ARRAY

This illustrates the area that will be covered by the proposed project. The solar array is shown in blue, bordered in red. The bordering fence is shown in red. A transmission line corridor (left) and a gas line corridor, right, are shown in green.

METHODOLOGIES

We performed a literature check through the California Historical Information Resources System at Stanislaus State University (File No. 9403N). This constitutes a check of the Regional Office of the Office of Historic Preservation. This information was supplemented by information from the files of Archaeological Resource Service.

We examined historical records to determine the presence or absence of past or present land uses that constitute potentially eligible historic deposits or features.

We contacted the Native American Heritage Commission by FAX with a request to check the Sacred Lands file maintained by them, and to identify individuals and organizations that might have additional information on the area.

The field evaluation consisted of examining all exposed soils within the areas of the proposed project scheduled for improvements, as shown on the map supplied by Coldwell Solar. As shown in Figure 2, the solar array can be divided into four distinct sections. Each section was examined sequentially in a systematic evaluation of the four areas. Transects were walked over the areas of the proposed solar array. Transects were walked in a generally north-south direction with spacing between workers varying from about 5 meters to as much as 10. All exposed soils were examined as well as any exposed rocks or other constituents with a potential to be artifactual or to indicate culturally derived modifications to the natural environment.

Additionally, the seasonal wetland visible in Figure 2 at the lower left corner of the proposed array was examined. This feature will not be impacted by the project, but it offers the most attraction for Native people of the entire study area. Seasonal wetlands are an important late-winter, early-spring food source throughout the San Joaquin Valley. These wetlands occur in a variety of topographic environments throughout the region. They are also highly variable in the presence of edible or otherwise usable plant and animal resources. The examined pool does not have the variety of species seen in wetlands showing signs of Native American harvesting or exploitation. The presence of a single seasonal pond with a limited species presence would not have attracted the human population.

NATIVE AMERICAN CONSULTATION

We contacted the Native American Heritage Commission by email in July 2015 with a request to check the Sacred Lands file maintained by them (letter attached). This database lists sacred places recorded by Native Americans or observed by anthropologists or archaeologists. These places can be rock art sites (petroglyphs or pictographs), cemeteries or funerary locations, important village sites, or locations associated with specific events or features of oral tradition. No response to our inquiry has been received to date (August 27).

The Native American Heritage Commission will supply us with a list of appropriate Native American contacts for this location. We will contact each individual or organization requesting any information they have or comment they wish to make regarding the project site. Should any comments be received, the report will be modified to reflect the new information and resubmitted.

REGULATORY SETTING

CEQA

The California Environmental Quality Act (CEQA) requires that potential impacts to the environment be identified and assessed prior to commencement of any project that has the potential to affect the environment. Cultural resources are aspects of the environment that require identification and assessment for potential significance (14 CCR 15064.5 and PRC 21084.1). There are five classes of cultural resources defined by the State Office of Historic Preservation (OHP). These are:

- **Building**: A structure created principally to shelter or assist in carrying out any form of human activity. A "building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.
- **Structure**: A construction made for a functional purpose rather than creating human shelter. Examples include mines, bridges, and tunnels.
- **Object**: Construction primarily artist in nature or relatively small in scale and simply constructed. It may be movable by nature or design or made for a specific setting or environment. Objects should be in a setting appropriate to their significant historic use or character. Examples include fountains, monuments, maritime resources, sculptures and boundary markers.
- **Site**: The location of a significant event. A prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing building, structure, or object. A site need not be marked by physical remains if it is the location of a prehistoric or historic event and if no buildings, structures, or objects marked it at that time. Examples include trails, designed landscapes, battlefields, habitation sites, Native American ceremonial areas, petroglyphs, and pictographs.

- **Historic District**: Unified geographic entities which contain a concentration of historic buildings, structures, or sites united historically, culturally, or architecturally.

According to California Code of Regulations Section 15064.5, cultural resources are significant if they are:

- Listed in, or eligible for listing in the California Register of Historic Resources (CRHR) (Public Resources Code 5024.1, Title 14 CCR, Section 4850 et. seq.);
- Listed in, or eligible for listing in, the National Register of Historic Places (NRHP);
- Included in a local register of historical resources, as defined in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resource 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 lead agency's determination is supported by substantial evidence in light of the whole record.

A resource may be listed as an historical resource in the CRHR if it has integrity and meets any of the following criteria:

1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2) Associated with the lives of persons important to local, California or national history;
3) Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Buildings, sites, structures, objects, and districts representative of California and United States history, architecture, archaeology, engineering, and culture convey significance when they also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A resource has integrity if it retains the characteristics that were present during the resource's period of significance. Enough of these characteristics must remain to convey the reasons for its significance.

CEQA (PRC 21083.2) also distinguishes between two classes of archaeological resources: archaeological sites that meet the definition of a historical resource as above, and "unique archaeological resources." A "unique archaeological resource" has been defined in CEQA as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type, or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, or included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resources as defined in PRC sections 5020.1(j) or 5024.1.

ETHNOGRAPHIC BACKGROUND

Ethnographic and archaeological studies on the west side of the valley are few and incomplete. Very little is known about the Native inhabitants of western Stanislaus County because of the high level of early historic era activity there and the low level of record keeping. William Wallace summarized this situation in his contribution to the Handbook of American Indians (Smithsonian 1978) when he wrote:

> *No large section of California is so little known ethnographically as the lower or northern San Joaquin Valley. The lack of information concerning the aboriginal inhabitants of this region is due to their rapid disappearance as a result of disease, missionization, and the sudden overrunning of their country by American miners and settlers during the gold rush years. Most of the native groups are completely gone; the others are represented by either by small remnants living among other tribes or by a few isolated survivors* (Wallace 1978:462).

Some of the only information on this area was collected by Frank Latta, a local who was born on Orestimba Creek and spent a lifetime collecting ethnographic and early historic information on the San Joaquin Valley. Latta worked from the 1930's on to collect the stories before the participants died. While he was not a professional ethnographer or historian, he collected more direct, first person stories from the people who had lived them than any other researcher in the region. We are indebted to his fortitude for the information presented here.

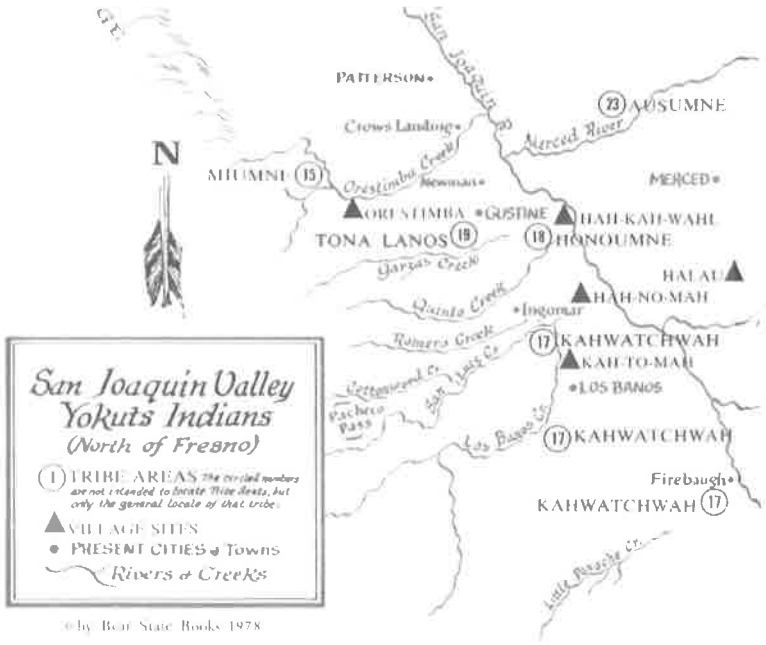

FIGURE 3 -- PART OF LATTA'S MAP OF ETHNOGRAPHIC POPULATIONS

According to Latta, the project area lay in the territory of the Tona Lanos tribelet of Yokuts Indians.

Latta (1977) lists the *Tona Lanos* tribelet as the Yokuts group living in the project vicinity. From later accounts we know that the tribelet on the Garzas Creek drainage was distinct from the Orestimba to the north. Unfortunately there is a great paucity of information on the Orestimba and Garzas Creek areas. Part of this stems from an incident in 1809 at a large village on Orestimba Creek. A group of priests and soldiers from Mission Santa Clara were trying to convince the Natives to join the mission. The Natives were reluctant, but agreed to meet the soldiers and priests at the same location one year later (1809). Latta describes the events that unfolded as follows:

> *When the Indians on Orestimba Creek first were approached by the Spanish, they showed fight, which decided the small party of Spanish to leave them until the following year, when the priests held a long discussion with the chiefs. They pointed out the many advantages of going to the missions. Still the Indians refused to go, so the priests and soldiers planned to return the following spring with a stronger force and meet the Indians at the same spot where the conference there was taking place. This was agreed to by the Indians, as they pointed to the ground and said, "Oh-rays-teem-bah" meaning: We meet here again." From this incident I was assured by Mr. Aguila (Latta's informant) that the present name of Orestimba Creek*

was established. These facts Mr. Aguila obtained from his father and grandfather. The grandfather was present and saw and heard the Indians make the agreement (Latta 1977:150).

Mr. Aguila further described the incident to Latta:

My grandfather, Antonio Aguila, was with the Spanish Cavalry when they made the agreement with the Indians to meet the next year and he was with them when they came back. The Indians again refused to go to the mission. The Cavalry tried to take them and got into a hot fight and killed or ran away all of the older people. They took the younger ones to Mission Santa Clara.

You know, the Spanish treated the Indians just like they did wild horses -- shot the old ones and broke the young ones.

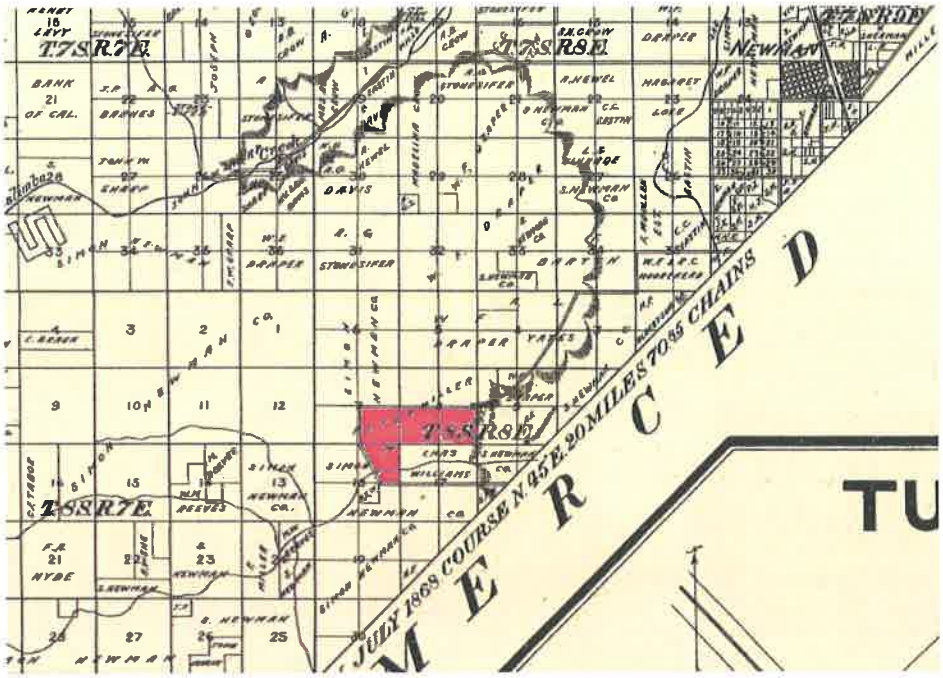

FIGURE 4 -- PART OF THE STANISLAUS COUNTY MAP FOR 1906

The approximate project area is marked in red. Note Orestimba Creek to the north. Garzas Creek lies just to the south of the project area. The project area appears to lie in the Pete Miller Ranch. The hatchures mark the edge of the hills.

That was the bloodiest battle the Spanish Cavalry ever had with the San Joaquin Valley Indians. They didn't intend to kill so many, but the Indians wouldn't quit, or run away and hide and so that was the way it turned out.

When the thing was over the priests swore all of the soldiers to secrecy. I heard my father tell about it once. We were working cattle with two Indians, vaqueros who had been captured as boys in that fight. I knew them for many years afterward and heard them tell about it several times.

One noon, when we were eating our lunch under an oak tree they told us that the fight had taken place nearby, on the Orestimba Creek just about a mile above the upper end of the Narrows, and on the south side of the creek. They said that about 200 Indians had been killed or scattered.

As we rode away from our noon camp my father told me that the Indians had told the truth, that all of the soldiers had been sworn to secrecy about the fight, but his father was ashamed of his part in it and thought that I should know the truth.

Mr. Aguila further described the area in response to Latta's query:

No, I do not remember the tribe name for those Indians. We just called them the Orestimba Indians. These two Indians that I knew so well told me several times that their northern boundary was at the head of Arroyo de la Puerta. They did not go down that creek, but they had Salada Grande, Saladita, Crow and Orestimba Creeks. Their south boundary was

Mustang Peak and the ridge that runs east from that peak between the Orestimba and Garzas Creek basins. That is all I remember about them.

Latta described another expedition into the region:

In going through many records relating to the Indians of the San Joaquin Valley I have found only one reference to the Orestimba and this battle, which probably took place in 1809. In October of 1810 Father Jose Viader led an expedition westward (?) from Santa Clara Mission to the junction of the Merced and San Joaquin rivers. His account follows:

"Before arriving to the junction of the Merced and San Joaquin [site of the old river village of Hill's Ferry, four miles north of present day Gustine] we encountered some deep dry creeks on the NW (SW) side of the San Joaquin.

In about 2 1/2 leagues we reached the spot where we had the fight with some natives – we saw but one Indian here and that was at a long distance [Apparently they had killed, scattered or kidnapped the rest.]

The place has tall pines -- [the upper Orestimba Creek has tall pines and evidence of a large Indian village, which undoubtedly is referred to here] – Flood waters do not reach here -- but the soil is very poor – has sufficient wood and good pasture – but there is no rock nearer than the mountains three leagues distant to the west. [The father had his eyes open for a Mission site].

From here in the evening following the same distance we reached a place fronting the rancheria of the Tona Lanos Indians – [could this be the name of Pahmit's Honoumne tribe?] – about three leagues. The guide was of their tribe and called by him to come over, they would not come – said they were afraid.

Unfortunately, these sketchy Spanish accounts of the earliest encounters with Native people are the most detailed accounts we have of the ethnography of the earliest historic period in what later became Stanislaus County.

Actual Spanish settlement in the region appears to have begun before 1820 when a deserter from the Spanish military settled on Garzas Creek. The deserter was involved in a fight with the military authorities, along with some local Native allies, in 1820 when they came to collect him. American pioneers are reported to have found his son living in an adobe on Arroyo de las Garzas in 1852 (Hoover, Rensch and Rensch 1966). If we read Latta correctly, the son arrived shortly after his father had been collected.

Perhaps one of the best known events to occur in the region was Estanislao's Rebellion of 1828-29. Estanislao, for whom Stanislaus County is named, was a Yokut Indian, a member of the Lakisami tribelet, kidnapped by the Spanish and raised in the mission system. He is noted as being exceptionally bright and became the *Alcalde* or foreman of Indian laborers at Mission San Jose. Throughout the 1820's more and more neophyte Indians were leaving the missions to return to their Native villages. One of Estanislao's jobs was to pursue and return these escapees. This task is thought to have been a motivating factor in the revolt against the mission system that he led. Several hundred, some accounts say thousands, of neophyte and "wild" Indians gathered under Estanislao's leadership on the east side of the San Joaquin River near the confluence with the Stanislaus. The Indians were raiding the missions and interior ranches, taking horses and cattle. It is said that horsemeat replaced acorns as the staple food of the natives during this time. Father Duran and the mission leadership demanded that the army control the situation. The first and second expeditions were defeated and sent back to Mission San Jose. The third, under Lieutenant Mariano Vallejo, succeeded in dislodging the Indians, only to have them move to a better fortified place a few miles away. Estanislao escaped this third battle, returned to Mission San Jose and received a pardon from Father Duran. Both Vallejo and Estanislao were accused of atrocities during the battle (Rice et. al. 2011).

HISTORIC BACKGROUND

The west side of the San Joaquin lies in the rain shadow of the Coast Ranges and has always seemed to be in the hinterlands of California. As noted above, early Spanish attempts to bring people into the mission system may have resulted in the cultural extermination of the tribelets on the Garzas and Orestimba Creeks. The rebellion led by Estanislao in 1828-29 undoubtedly helped to further reduce any native populations still remnant in the area.

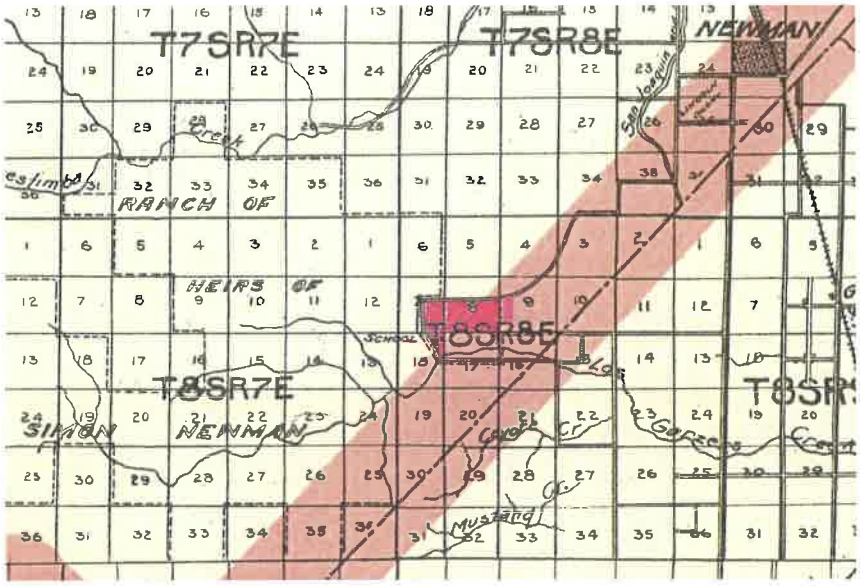

FIGURE 5 -- THE PROJECT AREA ON THE 1914 STANISLAUS COUNTY MAP.

Each numbered square is one square mile.

Early in the American era, ranches developed along the west side of the valley and in the mountains. As already noted, Garzas Creek had been occupied by Spanish elements since about 1820. Latta (1980) discusses the association of Joaquin Murrieta and the local area. Latta maintains that the Murrieta gangs (several separate groups were apparently identified as such) maintained a trail and a set of campsites down the spine of the Coast Ranges. One of the camps was in the hills on Orestimba Creek. Latta relates the story of the theft of horses from a man named Corona on Orestimba Creek a few days after the gang had been ambushed by Harry Love and the California Rangers at San Luis Gonzaga in July 1853, within the area of San Luis Reservoir today. When the gang stole the horses they headed down Orestimba Creek. Near the former Cleveland School they turned to an old trail that passed through the foothills and followed the route now taken by Highway 5 and led to the Garzas drainage. The following account was collected by Latta from Juan Maria Lopez who went by the nickname "Ojo De Aguila" and claimed to have been a lookout for Murrieta:

> *There has been a wagon road there for years. There is quite a valley and some farming land in there. Pete and John Miller used to farm there and for years there was an old school there. I have forgotten the name of the school, but it was named for one of our presidents (Cleveland). That trail hit the Garzas opposite the old Frank Wehe place [There are several small valleys on this old trail. Aguila was thinking of Bennett Valley, originally named Mustang Hollow and a favorite hangout for mustangs.] But the Wehe place wasn't there then. The trail turned to the left, into the creek where there was water and then on down to where the Sheep Camp is now [1930]. There used to be a small adobe there. It was built by a part Mexican and Indian who left Mision San Jose with his Indian wife and settled there about 1820. They lived off the wild game. I never knew the couple, but my father did. He told me about them* (Latta 1980:382-383).

RESULTS OF LITERATURE CHECK

Prior to undertaking a field survey, the archaeological base maps, reports and historical documents located at the Central California Information Center at Stanislaus State University and on file with Archaeological Resource Service pertaining to this area of Stanislaus County

and neighboring Merced County were consulted. It was determined that the property has not been previously studied for archaeological deposits, although a reservoir survey passed closely by, examining the properties bordering the project on the south.

An examination of available literature was used to determine the archaeological sensitivity of the project vicinity. The archaeological base maps, reports and historical references maintained at the Central California Information Center were consulted and used in this determination.

FIGURE 6 -- LOOKING NORTH ON THE WESTERN PROJECT BOUNDARY

Sullivan Road forms the western boundary of the project site. The buildings in the distance are on neighboring properties. The road intersection before the barn marks the intersection of Sullivan and Pete Miller roads. This is the northwest corner of the project parcel.

Prehistoric sites to be expected within the project area and in the immediate vicinity are typically represented by midden deposits (the organic soil as a result of the debris left by habitation) some of which contain human burials, or artifact scatters thought to reflect temporary camps; artifact scatters resulting from intensive use of a specific area, small camps or work areas marked by artifact scatters, or other surface features that do not include an underlying modified soil are to be expected in the general project vicinity. The lack of outcrops of suitable stone precludes the presence of pictographs, petroglyphs or "rock art."

Recorded historic structures and ranch complexes are also present within a two-mile radius and tend to date from the late 1800's. There is no indication in the literature that any of these resources are near the specific project area.

PREVIOUS EVALUATIONS IN THE PROJECT VICINITY

The Garzas Creek drainage, including all of the parcels that border the project on the south, was examined by staff from the California Department of Parks and Recreation (Hines et. al. 1993) for a proposed reservoir on Garzas Creek (Report ST-01943). The study covered 1691 acres in Stanislaus County and recorded 30 cultural resources (archaeological and architectural). None of the resources recorded by this project lie within 0.25 miles of the project area. Two isolated prehistoric artifacts were reported on the northerly bank of Garzas Creek, just under 0.5 miles from the project site. Part of an historic canal lies in the same general area and extends farther from the project site. An additional identified resource, a farm complex over one half mile south of the project area would also be unaffected by the proposed project. All other resources reported as part of the Garzas Alternative Reservoir Site evaluation lie over a mile from the current project area.

FIGURE 7 -- LOOKING SOUTH FROM PETE MILLER ROAD

The project area lies on top of the rise in the middle distance. The power lines bisect the array near the center of the span.

Both the Delta-Mendota Canal and the California Aqueduct have been recorded as cultural resources (P-50-1904 and P-50-1903, respectively). Both of these features lie within a mile of the project area, with the California Aqueduct lying along the eastern boundary of the examined property. Neither of these features will be impacted by the proposed project.

The Pete Miller Road Bridge across the Delta-Mendota Canal was evaluated for a scheduled seismic retrofit (O'Neill 2013). One cultural resource, the canal, was identified in the project area, but the study resulted in a finding of "No Adverse Effect" on historic properties (ST-07967).

One negative field study was conducted about a mile north of the project area at the northern end of Sullivan Road. The evaluated area was less than an acre and resulted in no identification of potentially significant cultural resources (ST-07138).

Four remaining evaluations within a one mile radius are all part of the PGT-PG&E Pipeline Expansion Project of the early 1990's (Moratto et. al. 1990; Price 1992; Canady, Ostrogorsky and Hess 1992; and Moratto, Pettigrew, Price, Ross and Schalk 1994). This project essentially paralleled the California Aqueduct through the project vicinity. This massive pipeline evaluation and mitigation project stretched from southern Alberta, Canada to Fresno. The overall project discovered rerecorded, evaluated and potentially mitigated impacts to hundreds of archaeological sites in several states. The section near the present project area, however,

appears entirely negative with no resources other than the aqueduct observed by the investigation.

FIGURE 9 -- LOOKING WEST FROM SULLIVAN ROAD

This fence line forms the southern boundary of the project area. The examined area is to the right of the fence in this photo. The photo was taken at the 90 degree bend in Sullivan Road at the southeast corner of Section 8.

FIGURE 8 -- LOOKING NORTH AT THE BORDER OF SECTIONS 8 AND 9

This photo demonstrates the vegetation of the project site.

In summary, cultural resource evaluations (CEQA) and historic property investigations (NEPA) conducted in the project vicinity have resulted in the recordation of several potentially significant archaeological and architectural resources in the general area of the current investigation. Other than the California Aqueduct, which will not be impacted by the proposed project, there are two known cultural resources or historic properties reported within one half mile of the proposed solar array. Both of these are individual prehistoric artifacts (isolated finds) near Garzas Creek. Within a one mile radius of the project area there are six sites recorded. Two of these are the canal and the aqueduct, one is a ranch complex on Garzas Creek, one is a historic local irrigation canal near Garzas Creek and two are the previously mentioned isolated prehistoric tools, also found near Garzas Creek. None of the observed resources will be impacted by the proposed project.

FIGURE 10 -- LOOKING SOUTHWESTERLY FROM THE NORTHEASTERN PROJECT SITE

EXPECTATIONS

The project area is not near discernible resources that would attract permanent settlement. Prior to the evaluation it was considered a potential to find seasonal exploitation areas, wetland habitats that were used as food sources, and potentially an alluvial source of stone for tool manufacture. No petroglyphs or pictograph sites were expected due to the lack of stone outcrops of any kind. The project area was generally assessed to be an area of low potential for archaeological resources.

RESULTS OF SURFACE EXAMINATION

The project area was examined on July 23, 2015 by William Roop and a team of associates from Archaeological Resource Service. The entire area was examined in a series of transects that blanketed the job site. Transects were run in a generally north-south direction in a "zig-zag" pattern that worked from east to west across the four distinct arrays in the project area. No indications of the presence of a cultural resource were observed. There are no soil changes, rock alignments, non-native stone, historic era artifacts, or other indications of an archaeological deposit or site. The soils of the site are not likely to mask or cover buried cultural resources. The project area is essentially a small plateau that rises above the surrounding area. There are no reliable water sources in or near the project area and no obvious resources to be exploited. One vernal wetland lies adjacent to the proposed installation at the southwest corner of the property. Inspection of the wetland area indicates that it is not a well developed vernal wetland

and that it does not contain the food plants and resources that would be exploited by the Native American population. No evidence of additional wetlands was observed within the project area.

FIGURE 11 -- THE DEGRADED WETLAND NEAR THE PROJECT AREA

The view is to the north-northeast. This seasonal wetland lies at the southwest corner of the proposed array. If seasonal wetlands potentially located in the project area were being exploited by Native people, this wetland would show evidence of that use. No tools or modified stone was found in association with the wetland. This area was examined prior to completing the remaining examination. It is now apparent that exploitable seasonal wetlands are not evident within the project area.

CONCLUSIONS

The project area contains no discernible evidence of significant or potentially significant past human use. There is evidence of past grazing activity, as would be expected in an active ranch, but this activity has left no unique or significant mark on the land other than the disc marks on rocks throughout the area. The soils of the site are not conducive to alluviation and are, thus, not considered likely to cover buried cultural resources. The lack of water or exploitable resources along with the presence of far more desirable areas to the north and south means this property does not appear to have been attractive to Native populations.

RECOMMENDATIONS

If archaeological materials, artifacts, culturally modified soil deposits, or other indicators of a potentially significant cultural resource are encountered anywhere in the project site, all work should be halted in the vicinity and an archaeologist consulted immediately.

If human remains are encountered anywhere on the property, all work must stop in the immediate vicinity of the discovered remains and the County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Native American Heritage Commission must be contacted by the Coroner so that a "Most Likely Descendant" can be designated.

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APPENDIX 1

Native American Correspondence

DELIVERED BY FAX AND EMAIL

July 13, 2015

Ms. Katy Sanchez
Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691

Re: **ARS 15-020**; *A Cultural Resources Evaluation for a Ground Mount Photovoltaic System, 5925 Sullivan Road, Stanislaus County, California (near Gustine).*

Dear Ms. Sanchez:

Archaeological Resource Service has been retained to conduct a cultural resource evaluation of approximately 153 acres located on Sullivan Road, west of Highway 5, between Bennett Valley and Garzas Creek in Stanislaus County, California.

The project area is shown on four USGS 7.5' quadrangle maps, lying at the intersection of the Howard Ranch, Newman, Orestimba Peak and Crevison Peak quadrangle maps. The majority of the project area is in the northwest corner of the Howard's Ranch quadrangle map. It is located in the southeast quarter of the southeast quarter of Section 7, the southern quarter of Section, the west half of the southwest quarter of Section 9, and the northeast quarter of Section 18 within Township 8 South, Range 8 East (Mt. Diablo base and meridian). The UTMs for the center of the project area are 4124000 meters north and 667050 meters east. A location map is attached for your reference.

Please undertake a sacred lands inventory for this location, and supply us with a list of the appropriate Native American organizations and individuals to contact regarding this project area. Thank you.

Sincerely,

William Roop

William Roop
Partner, ARS

ARS 15-020;
A Cultural Resources Evaluation for a Ground Mount Photovoltaic System,
5925 Sullivan Road, Stanislaus County, California (near Gustine).