Northern California Power Agency
651 Commerce Drive
Roseville, California 95678-6420

Initial Study and Mitigated Negative Declaration
NCPA Solar Project 1 – Redding Airport Site

Photo Courtesy of SunPower Corporation

Prepared by:

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Acronyms and Abbreviations

AADT	annual average daily traffic
AAM	annual arithmetic mean
ADOE	Archaeological Determinations of Eligibility
AFY	acre-feet per annum
AGM	annual geometric mean
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BSA	Broader Sacramento Area
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAPCOA	California Air Pollution Control Officers Association
CDFW	California Department of Fish and Wildlife
CARB	California Air Resources Board
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CMP	congestion management program
CNDDB	California Natural Diversity Data Base
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide

CO_2	carbon dioxide
CRHR	California Register of Historic Resources
CRWQCB, CVR	California Regional Water Quality Control Board, Central Valley Region
dB(A)	decibels on the A-scale
DEIR	Draft Environmental Impact Report
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EIR	Environmental Impact Report
EMP	Energy Management Plan
EPA	U.S. Environmental Protection Agency
EPDC	expected peak day concentration
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
g	acceleration due to gravity
GHG	greenhouse gases
GIS	Geographic Information System
gpm	gallons per minute
HI	hazard index
ISA	Integrated Science Assessment
GWP	global warming potential
HPD	Historic Property Directory
kV	kilovolts
kW	kilowatts
KSD&A	K.S. Dunbar & Associates, Inc.
Ldn	day-night average sound level
Leq	noise equivalent
LUSTIS	Leaking Underground Storage Tank Information System
MBTA	Migratory Bird Treaty Act

MDB&M	Mount Diablo Base and Meridian
MMRP	Mitigation Monitoring and Reporting Program
MT	metric tons
MW	megawatts
MW_{dc}	megawatts measured as direct current
MWh	megawatt hours
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NDDB	Natural Diversity Data Base
NO	nitrogen oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NOT	Notice of Termination
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NSVPA	Northern Sacramento Valley Planning Area
NWI	National Wetland Inventory
O_3	ozone
ODS	ozone depleting substances
OES	Office of Emergency Services
OHP	Office of Historic Preservation
Pb	lead
Pga	peak ground acceleration
PM	particulate matter
PM_{10}	particulate matter (less than 10 microns in diameter)
$PM_{2.5}$	particulate matter (less than 2.5 microns in diameter)
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
PV	photovoltaic

RCRA	Resource Conservation and Recovery Act
REL	reference exposure limit
ROG	reactive organic gases also called VOC (volatile organic compounds)
Sa	spectral acceleration
SAAQS	State Ambient Air Quality Standards
SCAQMD	South Coast Air Quality Management District
SEMS	Superfund Emergency Management System
SGHAT	Solar Glare Hazardous Assessment Toot
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SCAQMD	Shasta County Air Quality Management District
SO_2	sulfur dioxide
SO_x	oxides of sulfur
State Water Board	State Water Resources Control Board
SVAQEP	Sacramento Valley Air Quality Engineers and Professionals
SWIS	Solid Waste Information System
SWPPP	Storm Water Pollution Prevention Plan
TAC	toxic air contaminants
TOG	total organic gases
USDA	U.S. Department of Agriculture
USF&WS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
$\mu g/m^3$	micrograms per cubic meter

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May 2019

Executive Summary

Overview of the Proposed Project

The objective of the NCPA Solar Project 1 is to develop a fleet of Photovoltaic (PV) Solar Power Plants throughout participating member service territories to start construction by the end of 2019. The plants will be managed by the Northern California Power Agency (NCPA) as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial 5 – 7 years of operation, NCPA plans to purchase the plants.

The project will be executed in three phases:

- Phase 1 – Determine member interest and requirements and identify potential sites.
- Phase 2 – Site selection and screening, plan development and selection of a third-party provider to fulfill design, construction and operation through a PPA.
- Phase 3 – Construction and operation per the PPA.

NCPA has now completed Phase 1 and the site selection and screening portion of Phase 2. The City of Redding selected a site at the Redding Municipal Airport for further analysis as shown below:

Site	Location		Developable Area (acres)	Estimated Capacity (MW_{dc})[1]
	Latitude, Longitude	Section, Township, Range		
Redding Airport	40º29'41.73"N, 122º16'46.41"W	Sec 35, T 31 N, R 4 W, MDB&M	54.7	11.4

The Project site consists of two parcels owned by the City of Redding. As shown on Figure 1.1-1, they are located directly southeast of the Redding Municipal Airport. The site which totals approximately 100 acres is bordered on the south and east by residential development and on the north and west by open space. Due to constraints, e.g., potential wetland, existing dirt road and transmission lines, approximately 54.7 acres of this site is developable for a solar array. Based on Burns & McDonnell's February report, this site would accommodate a 11.4 MW_{dc} facility.

[1] MW_{dc} = megawatts direct current.

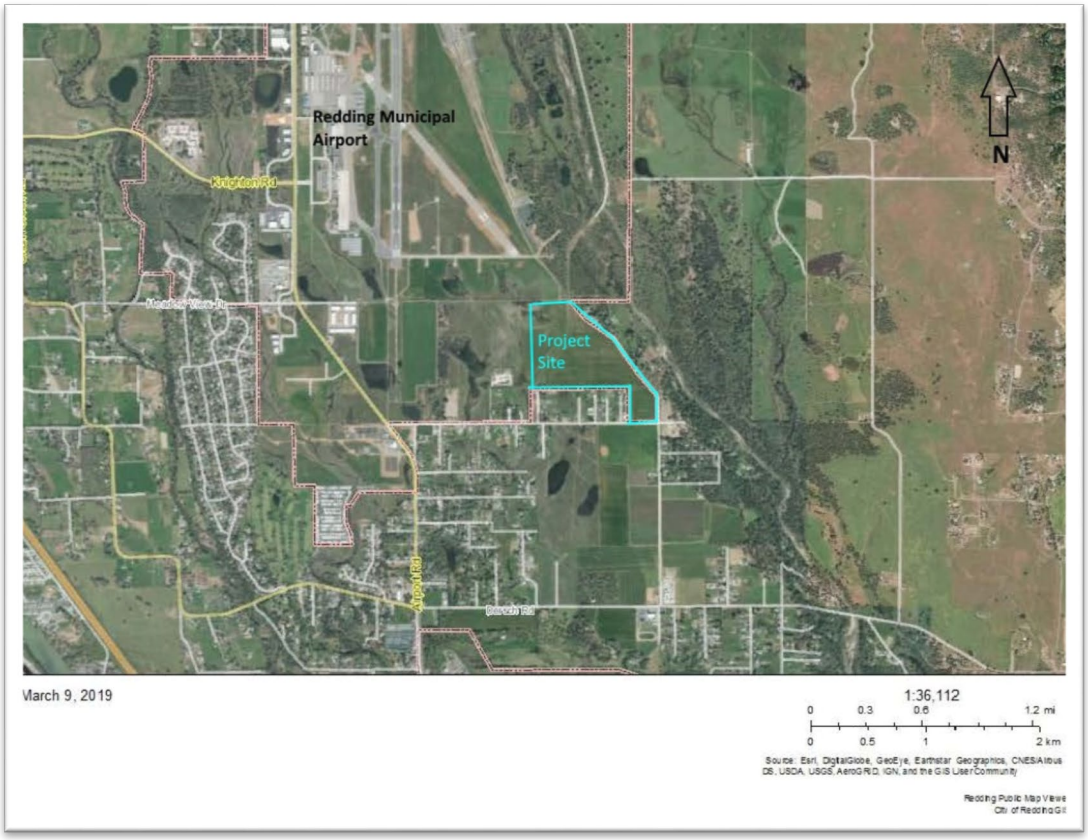

Figure ES-1 Redding Municipal Airport Project Site

Impacts and Mitigation Measures

Table ES-1 identifies each potential significant effect, Standard Construction Practices/Design Features, and proposed mitigation measures that would reduce or avoid that effect. Proposed mitigation measures are NCPA Staff's and its consultant's recommendations to reduce potential impacts associated with implementation of the proposed Project. Should NCPA's Commission adopt the Mitigation Monitoring and Reporting Program (Appendix F in the IS&MND) these mitigation measures would become mandatory and part of the Project.

Table ES-1
Impacts and Mitigation Measures

Environmental Factor:	Air Quality
Impact:	The total estimated emissions from installation of the solar equipment at the Redding Airport site would not exceed the construction-related threshold limits for significance presented in Table 3.7-6. However, the ARB has designated Shasta County as non-attainment for the State ozone standard. Therefore, every effort should be made to minimize emissions within the Northern Sacramento Valley Air Basin. Consequently, to reduce the emissions as much as possible, NCPA will:
Standard Construction Practices/Design Features	NCPA will add the following best management practices in its contract documents for this project:
Mitigation Measures	The contractor shall: ❖ Utilize electricity from power poles instead of from temporary diesel or gasoline power generators, when feasible.

	❖ Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the contractor shall use trucks that meet EPA 2007 model year NO_x emissions requirements. ❖ Require that all on-site construction equipment meet EPA Tier 3 or higher emissions standards according to the following: ➢ All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with *BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. ➢ A copy of each unit's certified tier specification, BACT documentation, and CARB or Shasta County AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. ❖ Maintain construction equipment engines by keeping them properly tuned and maintained according to manufacturer's specifications. ❖ Use alternative fuels or clean and low-sulfur fuel for equipment. ❖ Idle trucks in accordance with the Airborne Toxic Control Measure (ACTM) to Limit Diesel Fueled Commercial Motor Vehicle Idling and other applicable laws. ❖ Spread soil binders on site, where appropriate. ❖ Water active construction sites at least twice daily as directed by the City of Redding Public Works Department. ❖ Sweep all streets at the end of the day if visible soil materials are carried onto adjacent public paved roads (recommend water sweeper with reclaimed water). ❖ All grading operations shall be suspended when winds (as instantaneous gusts) exceed 20 miles per hour as directed by the Shasta County AQMD. ❖ If necessary, wash off trucks leaving the site. ❖ Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114.
Impact After Mitigation:	Less than significant impact.
Mitigation Measures:	NCPA shall appoint a construction relations officer to act as a community liaison concerning on-site construction activities including resolution of issues related to PM_{10} generation. Additionally, best management practices shall be included in contract documents for this project.
Impact After Mitigation:	Less than significant impact.
Environmental Factor:	**Biological Resources**
Impact:	Potential impacts to nesting birds.
Standard Construction Practices/Design Features	NCPA will include the following mitigation measures in its contract documents for this project.
Mitigation Measures:	If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds shall be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a no-disturbance buffer. The size of the no-disturbance buffer (generally 300 feet for migratory and non-migratory song birds and 500 feet for raptors and special-status species) will be determined by the wildlife biologist, in coordination with the CDFW, and will depend on the level of noise and/or surrounding disturbances, line of sight between the nest and the construction activity, ambient noise, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the

	boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area can occur.
Impact After Mitigation:	Less than significant impact
Environmental Factor:	**Cultural Resources**
Potential Impact:	Possible inadvertent discoveries of cultural resources or human remains during excavation activities.
Standard Construction Practices/Design Features	Prior to the start of construction, NCPA shall hold a pre-grading meeting. The Project Archaeologist shall attend the pre-grading meeting with NCPA's Project Administrator, Field Engineering Inspector and any contractors to conduct a Cultural Resources Worker Sensitivity Training for all construction personnel working on the proposed Project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated, and any other appropriate protocols. In addition, NCPA will include the following mitigation measures in its contract documents for this project.
Mitigation Measures:	❖ In the unlikely event that potentially significant archaeological materials are encountered during construction activities, all work shall be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery, access the significance of the archaeological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of cultural material that might be discovered during excavation shall be in accordance with applicable laws and regulations. ❖ All sacred items, should they be encountered within the Project sites, shall be avoided and preserved as the preferred mitigation, if feasible. All cultural materials that are collected during excavation and other earth disturbing activities on the Project sites, with the exception of sacred items, burial goods and human remains which will be addressed in any required Treatment Agreement, shall be tribally curated according to the current repository standards. The collections and associated records shall be transferred, including title, to the closet tribe to the Project site. ❖ In the event of an accidental discovery or recognition of any human remains, the County Coroner shall be notified and construction activities at the affected work site shall be halted. If the coroner determines the remains to be Native American: (1) the coroner shall contact the Native American Heritage Commission (NAHC) within 24-hours, and (2) the NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American. The treatment and disposition of human remains that might be discovered during excavation shall be in accordance with applicable laws and regulations.
Impact After Mitigation:	Less than significant impact
Environmental Factor	**Geology and Soils**
Potential Impact	Possible inadvertent discoveries of paleontological resources during excavation activities.
Standard Construction Practices/Design Features	NCPA will include the following mitigation measures in its contract documents for this project.
Mitigation Measures	❖ In the unlikely event that potentially significant paleontological materials (e.g., fossils) are encountered during construction of the project, all work shall be halted in the vicinity of the paleontological discovery until a qualified paleontologist can visit the site of discovery, assess the significance of the paleontological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of paleontological material that might be discovered during excavation shall be in accordance with applicable laws and regulations.
Environmental Factor	**Hazards and Hazardous Materials**
Potential Impact	During construction, the contractor would utilize equipment that uses petroleum-based fuels and lubricants, which are subject to both leakage from engine blocks and containers, or spillage during refueling and lubrication operations
Standard Construction Practices/Design Features	NCPA's contract documents for this project will include the following: During project construction, the construction contractor shall implement the following measures to address the potential environmental constraints associated with the presence of hazardous materials at the project sites to the satisfaction of NCPA:

	❖ The contractor shall prepare a Health and Safety Plan in compliance with the requirements of Chapter 6.95, Division 20 of the Health and Safety Code (§25500 – 25532). The plan shall include measures to be taken in the event of an accidental spill. ❖ The contractor shall enforce strict on-site handling rules to keep construction and maintenance materials out of receiving waters and storm drains. In addition, the contractor shall store all reserve fuel supplies only within the confines of designated construction staging areas; refuel equipment only with the designated construction staging areas; and regularly inspect all construction equipment for leaks. ❖ The construction staging area shall be designed to contain contaminants such as oil, grease, and fuel products to ensure that they do not drain towards receiving waters or storm drain inlets.
Mitigation Measures	No additional mitigation is required.
Impact After Mitigation	Less than significant impact.
Environmental Factor	**Hydrology and Water Quality**
Potential Impact	During project construction, there is the potential for sediment-laden runoff to enter downstream drainages.
Standard Construction Practices/Design Features	All site grading and excavation activities associated with the construction of the Project facilities would be subject to the provisions of the National Pollutant Discharge Elimination System (NPDES) Construction Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities [NPDES No. CAS000002 (State Water Resources Control Board Order No. 2009-0009-DWQ)]. Compliance with the provisions of that Order would require NCPA to obtain coverage before the onset of construction activities. Construction activities would comply with the conditions of these permits that include preparation of storm water pollution prevention plans (SWPPP), implementation of BMP's, and monitoring to insure impacts to water quality are minimized. As part of this process, multiple BMP's should be implemented to provide effective erosion and sediment control. These BMP's should be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. BMP's to be implemented may include, but not be limited to, the following: ✓ Temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other groundcover shall be employed for disturbed areas. ✓ Storm drain inlets on the site and in downstream offsite areas shall be protected from sediment with the use of BMP's acceptable to NCPA, local jurisdictions and the California Regional Water Quality Control Board, Central Valley Region. ✓ Dirt and debris shall be swept from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events. ✓ No disturbed surfaces shall be left without erosion control measures in place. NCPA, or its Construction Contractor, shall file a Notice of Intent with the Regional Board and require the preparation of a pollution prevention plan prior to commencement of construction. NCPA shall routinely inspect the construction site to verify that the BMP's specified in the pollution prevention plan are properly installed and maintained. NCPA shall immediately notify the contractor if there were a noncompliance issue and require immediate compliance. The SWPPP will also identify the method of final stabilization of the site to ensure no post-construction erosion and impacts to water quality will occur. The Notice of Termination (NOT) and release of the Project from the provisions of the Construction General Permit coverage will be granted by the California Regional Water Quality Control Board, Central Valley Region once it is satisfied that no impacts to water quality will occur.
Mitigation Measures	No additional mitigation is required.
Impact After Mitigation	Less than significant impact.
Environmental Factor	**Noise**
Potential Impact	During construction, there could be times that the residents immediately adjacent to the construction site could experience ground vibration from the construction equipment.
Mitigation Measures	NCPA shall appoint a construction relations officer to act as a community liaison concerning on-site construction activities. Prior to ground disturbing activities NCPA shall notify adjoining property owners of the potential for ground vibration impacts.
Impact After Mitigation	Less than significant impact.

Areas of Controversy

There are no areas of controversy associated with the NCPA Solar Project 1 – Redding Airport site.

Issues to be Resolved

There are no issues to be resolved associated with the NCPA Solar Project 1 – Redding Airport site.

Document Availability and Contact Personnel

The Initial Study and Mitigated Negative Declaration is available for review at the following locations:

Northern California Power Agency
651 Commerce Drive
Roseville, California 95678

Redding Electric Utility
777 Cypress Avenue
Redding, California 96001

and can be downloaded at:

https://www.ncpa.com

All comments regarding the Project or environmental documents should be mailed or emailed to:

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1 Introduction

1.1 Introduction

The following Initial Study addresses the environmental impacts associated with the NCPA Solar 1 Project – Redding Airport site (Project) being implemented by the Northern California Power Agency (NCPA) (Figure 1.1-1). This Initial Study has been prepared in accordance with the *California Environmental Quality Act of 1970,* as amended, (CEQA), the *State CEQA Guidelines,* and NCPA's *Local Guidelines for Implementing the California Environmental Quality Act*, as amended. NCPA is the Lead Agency and the City of Redding is a Responsible Agency for the purposes of CEQA for this project.

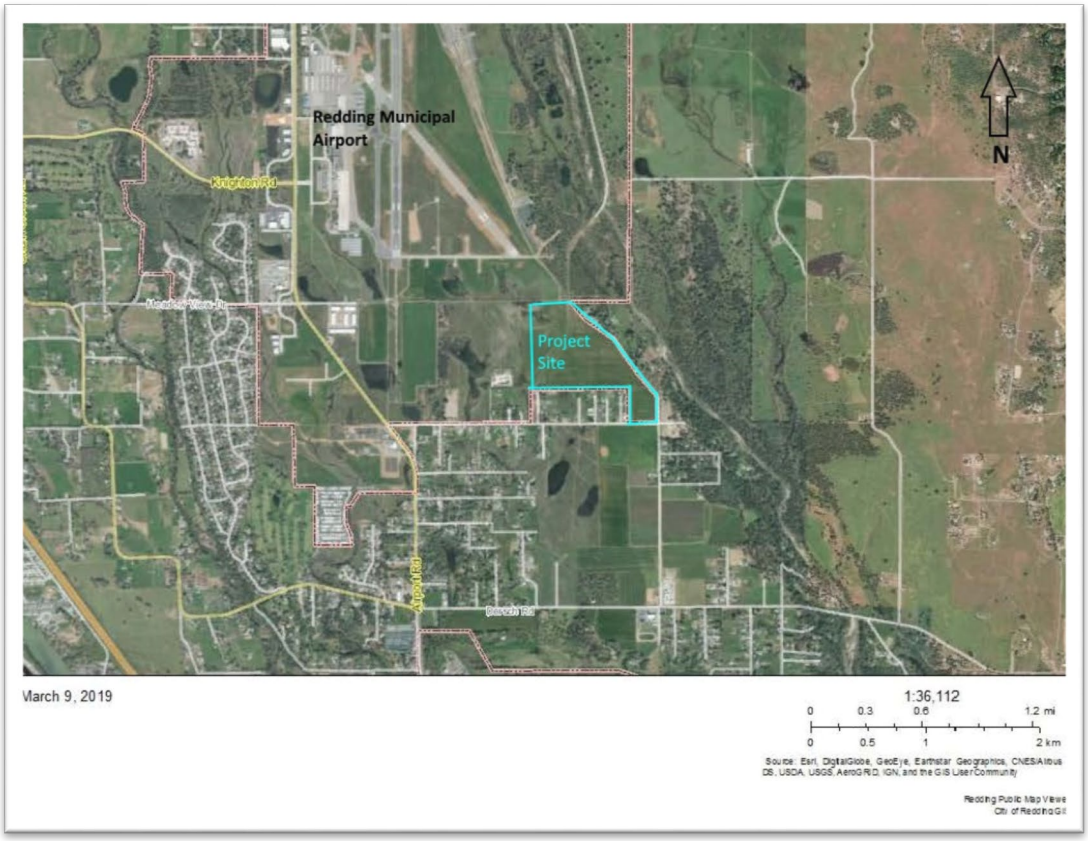

Figure 1.1-1 Redding Municipal Airport Project Site

1.2 Project Summary

The objective of the NCPA Solar Project 1 is to develop a fleet of Photovoltaic (PV) Solar Power Plants throughout participating member service territories to start construction by the end of 2019. The plants will be managed by NCPA as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial 5 – 7 years of operation, NCPA plans to purchase the plants.

The project will be executed in three phases:

- Phase 1 – Determine member interest and requirements and identify potential sites.
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- Phase 3 – Construction and operation per the PPA.

NCPA has now completed Phase 1 and the site selection and screening portion of Phase 2. The City of Redding selected a potential site at the Redding Municipal Airport for further analysis as shown below:

Site	Location		Developable Area (acres)	Estimated Capacity (MW_{dc})[1]
	Latitude, Longitude	Section, Township, Range		
Redding Airport	40°29'41.73"N, 122°16'46.41"W	Sec 35, T 31 N, R 4 W, MDB&M	58	11.4

The Project site consists of two parcels owned by the City of Redding. As shown on Figure 1.1-1, they are located directly southeast of the Redding Municipal Airport. The site which totals approximately 100 acres is bordered on the south and east by residential development and on the north and west by open space. Due to constraints, e.g., potential wetland, existing dirt road and transmission lines, approximately 58.3 acres of this site is developable for a solar array. Based on Burns & McDonnnell's February report, this site would accommodate a 11.4 MW_{dc} facility.

1.3 California Environmental Quality Act Compliance

The California Environmental Quality Act (California Public Resources Code §21000 et seq.: "CEQA"), requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and eliminated. Therefore, to fulfill the purpose and intent of CEQA, NCPA, as the lead agency, has caused this Initial Study/Mitigated Negative Declaration (IS/MND) to be prepared to address the potentially significant adverse environmental impacts associated with implementation of the Project.

1.3.1 Purposes of an Initial Study

The purposes of an Initial Study, as outlined in §15063(c) of the State CEQA Guidelines, are:

1) *Provide the Lead Agency with information to use as the basis for deciding whether to prepare an EIR or a Negative Declaration;*

2) *Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a Negative Declaration;*

3) *Assist the preparation of an EIR, if one is required, by:*

   a. *Focusing the EIR on the effects determined to be significant,*
   b. *Identifying the effects determined not to be significant,*
   c. *Explaining the reasons for determining that potentially significant effects would not be significant, and*
   d. *Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects.*

4) *Facilitate environmental assessment early in the design of a project;*

5) *Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment;*

[1] MW_{dc} = megawatts direct current.

6) *Eliminate unnecessary EIR's; and*

7) *Determine whether a previously prepared EIR could be used with the project.*

1.3.2 Contents of an Initial Study

The contents of an Initial Study are defined in §15063(d) of the CEQA Guidelines as follows:

1) *A description of the project including the location of the project;*

2) *An identification of the environmental setting;*

3) *An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries. The brief explanation may be either through a narrative or a reference to another information source such as an attached map, photographs, or an earlier EIR or negative declaration. A reference to another document should include, where appropriate, a citation to the page or pages where the information is found;*

4) *A discussion of ways to mitigate the significant effects identified, if any;*

5) *An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;*

6) *The name of the person or persons who prepared or participated in the Initial Study.*

1.3.3 Intended Uses of the Initial Study

The Initial Study will be presented to NCPA's Commission for its use in implementing the California Environmental Quality Act (CEQA). The basic purposes of CEQA as outlined in §15002(a) of the CEQA Guidelines are to:

1) *Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.*

2) *Identify the ways that environmental damage can be avoided or significantly reduced.*

3) *Prevent significant avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.*

4) *Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.*

As pointed out above, one purpose of an Initial Study is:

> Provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration.

1.3.4 Lead Agency Decision-Making Process

The Lead Agency (i.e., NCPA) would base its decision on the Project on the findings contained within this Initial Study plus the professional knowledge and judgment of its staff and consultants. During the review process, mitigation measures contained in

this document should be evaluated with respect to their effectiveness in reducing impacts to a level of insignificance. Public input, including responsible and trustee agencies, should also be requested and evaluated during the review process.

The approval process for the proposed Project will begin with NCPA's Commission making a decision to prepare a Negative Declaration or an Environmental Impact Report for the Project. Should NCPA decide to prepare a Negative Declaration, based on this Initial Study, it would also determine whether or not it would approve of the Project in accordance with §15074 of the State CEQA Guidelines. Should NCPA decide to prepare an Environmental Impact Report for the Project, it would also have to make findings in accordance with §15091 of the State CEQA Guidelines and to certify the Final Environmental Impact Report in accordance with §15090 of the CEQA Guidelines.

1.3.5 Approvals for which this Initial Study will be Used

The following agencies would also utilize this document in their decision-making process regarding the Proposed Project:

California Regional Water Quality Control Board, Central Valley Region

General Permit for Storm Water Discharges Associated with Construction Activity

City of Redding

Project Approval

2 Project Background and Description

2.1 Introduction

The Northern California Power Agency (NCPA), a California Joint Action Agency, was established in 1968 by a consortium of locally owned electric utilities to make joint investments in energy resources that would ensure an affordable, reliable and clean supply of electricity for customers in its member communities. Today those members include the Cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding, Roseville, Santa Clara, Shasta Lake, and Ukiah as well as the Bay Area Rapid Transit District, Port of Oakland, Plumas-Sierra Rural Electric Cooperative, and Tahoe Donner Public Utility District.

Over the past four decades, NCPA has constructed and today operates and maintains a fleet of power plants that is among the cleanest in the nation and that provides reliable and affordable electricity to more than 600,000 Californians. NCPA made major investments in renewable energy in the early 1980s when it developed two geothermal power plants and financed and built a 259 MW hydroelectric facility. Thirty years later those resources continue to generate reliable, emission-free electricity for its member communities.

NCPA's 775-megawatt portfolio of power plants is approximately 50% greenhouse gas emission free. Its mix of geothermal, hydroelectric and natural gas resources is well positioned to help its members achieve California's goal of a 50% Renewable Portfolio Standard (RPS) by 2030. NCPA member utilities also have invested heavily in the most environmentally friendly form of electricity – the megawatts that are not used. The Agency members have collectively spent more than $100 million on energy efficiency since 2006 reducing demand for electricity by more than 350 gigawatt hours during that time.

NCPA's commitment to the environment reflects its status as a not-for-profit public entity whose policies and values are set not by investors but by locally elected or appointed officials who serve as the energy regulators in the cities, towns and districts that are members of the Agency.

2.2 Project Background

Now NCPA intends to implement the NCPA Solar Project 1. The objective of the NCPA Solar Project 1 is to develop a fleet of Photovoltaic (PV) Solar Power Plants throughout participating member service territories to begin construction by the end of 2019. The plants will be managed by the Northern California Power Agency (NCPA) as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial 5 – 7 years of operation, NCPA plans to purchase the plants.

The project will be executed in three phases:

- Phase 1 – Determine member interest and requirements and identify potential sites.
- Phase 2 – Site selection and screening, plan development and selection of a third-party provider to fulfill design, construction and operation through a PPA.
- Phase 3 – Construction and operation per the PPA.

NCPA has now completed Phase 1 and the site selection and screening portion of Phase 2. Four of the member agencies have decided to participate in this project. They are the Cities of Healdsburg, Lodi and Redding as well as the Plumas-Sierra Rural Electric Cooperative. Six potential sites have been selected for further analysis as shown below:

Site	Location	Developable Area (acres)	Estimated Capacity (MW_{dc})
Healdsburg – Wastewater Plant	38°35'00.03" N, 122°51'45.37" W	8.13	3.62
Lodi – Pixley Basin	38°07'18.06" N, 121°15'12.14" W	15.0	3.51
Lodi – Century East/West	38°06'26.66" N, 121°16'21.63" W	2.5	0.63
Lodi – Parking Structure	38°08'05.25" N, 121°16'18.58" W	0.9	0.18
Plumas-Sierra – Chilcoot	39°47'56.66" N, 120°09'49.99" W	28.2	6.11
Redding – Airport	40°29'41.73" N, 122°16'46.41" W	58	11.40

Due to the timing of implementation and the great distance between the member agencies, it was determined that the most logical approach to satisfying the requirements of CEQA for this project was to issue separate CEQA documents for each member agency's projects. Therefore, this document focuses on the project proposed by the City of Redding.

2.3 Project Description

As shown above, the City of Redding selected a potential site at the Redding Municipal Airport for further analysis. The location of this site is shown on Figure 2.3-1.

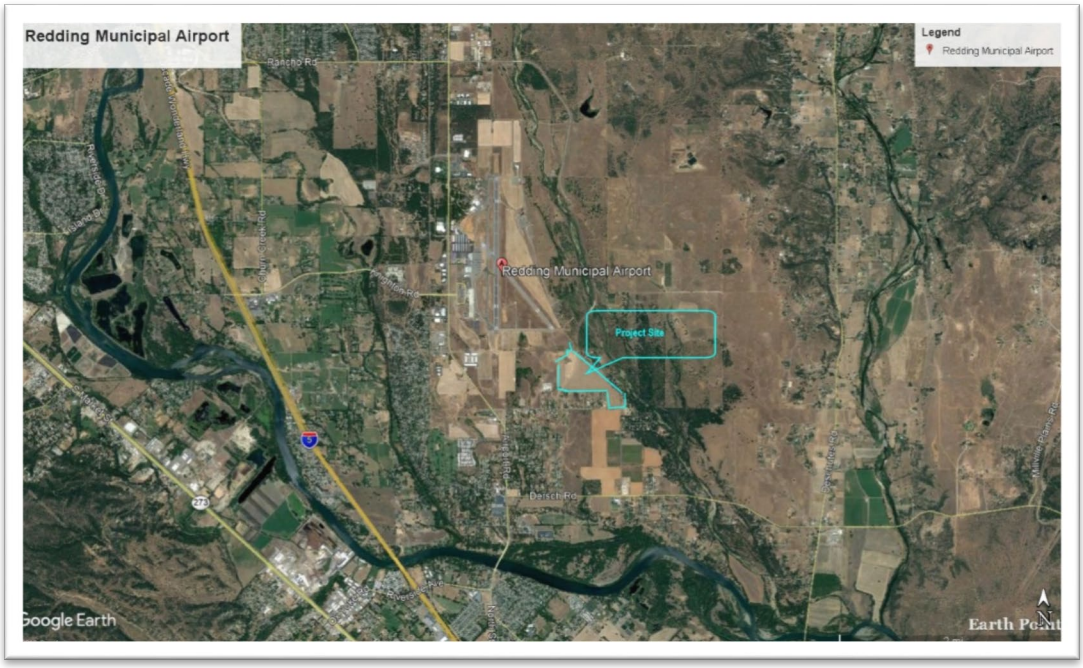

Figure 2.3-1 Proposed Photovoltaic Site in the City of Redding

According to Burns & McDonnell's October 29, 2018 letter report to Brian Schinstock and Ron Yuen, Northern California Power Agency, the site is comprised of 100 total acres, located in Shasta County, and is situated directly southeast of the Redding Municipal Airport. The site is bordered by residential houses to the south and east. Upon completion of the site visit, the developable area of the site was reduced because of a suspected wetland area and to avoid an existing road and transmission line. Based on these conditions and other observations made during the site visit, Burns & McDonnell estimated the developable area of the Site to be approximately 54.7 acres, or enough land to potentially yield a Project size of 11.4 MW_{dc}. A conceptual site footprint (" Project Site") is delineated on Figure 2.3.2. The Project Site was positioned in an area to avoid obvious environmental constraints and the existing infrastructure observed during the site visit.

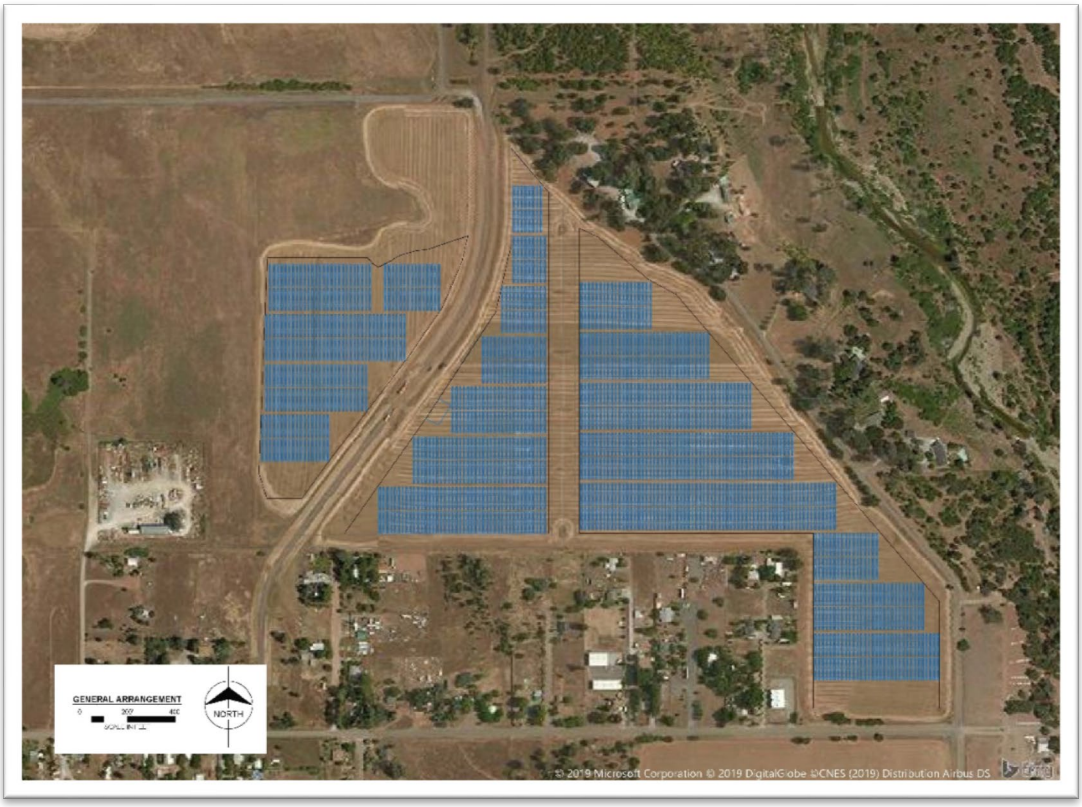

Figure 2.3.2 Conceptual Site Layout

2.3.1 Project Development

Evaluation categories for the project development criteria included analysis of solar resource potential, panel performance, technology suitability and electrical interconnection. The project team did not discover any fatal flaws during the desktop analyses or site visits with respect to these evaluation criteria. Based on historical Direct Normal Irradiance/Global Horizontal Irradiance (DNI/GHI) data from 1998 to 2014, the site appears to have sufficient solar insolation for photovoltaic generation. Because the site will no longer be actively farmed, the site has a low potential for dust and dirt accumulation. If new plantings are required to screen the Project, they should be configured in a manner to avoid shading the panels.

The proposed array design at this location is horizontal single axis tracker (HSAT). This application for the Project is recommended because the arrays will be at ground level, the site has a low grade, and penetrating mounting can be used. Using HSAT will increase production but may be difficult to implement in specific areas due to the tight geometry. The most eastern array narrows inward towards the southern portion, which may result in PV strings connected in series being spread across multiple rows of trackers which is not ideal. As such, further investigation such as modeling the layout of the trackers is recommended to verify HSAT is the most economic implementation for the Project.

Burns & McDonnell received data identifying the location of the point of interconnection (POI) along with some additional site-specific information. The POI is located northwest of the Site on Airport Road. The PSLF model supplied by Redding was used to determine the loading constraints on the surrounding transmission system. The PSLF model was converted to PSSE version 33 to perform the First Contingency Incremental Transfer Capability (FCITC) study and the Site was modeled with a total PV output of 15 MW and a power factor of 95 percent. Upon the completion of this analysis, it was determined that the existing electric infrastructure should be able to support the full output of the Project without requiring any significant system upgrades.

Design parameters are shown below:

Parameter	Content
Project Buildable Area	58 acres
Approximate PV Project Area	54.7 acres
Estimated Project Size (DC)	11.4 MW_{dc}
Estimated Project Size (AC)	9.1 MW_{ac}
Target DC:AC Ratio	1.2 - 1.3
POI Voltage	12.0 kV
Overhead Distribution Line Setback	50 feet from centerline
Wetland Setback	50 feet
Site Access Buffer from Perimeter to Array	30 Feet
Security and Fencing	build new 6' chain link fence
Module Size	minimum 350 W
Racking System	horizontal single axis tracking (HSAT)
Inverters	string inverters or central inverters

3 Environmental Checklist, Analysis and Mitigation Measures

3.1 Introduction

1. Project Title:	**NCPA Solar Project 1 – Redding Airport Site**
2. Lead Agency Name and Address:	Northern California Power Agency 651 Commerce Drive Roseville, California 95678-6420
3. Contact Person, Phone Number and Email:	Keith S. Dunbar, P.E., BCEE, Hon.D.WRE., F. ASCE K.S. Dunbar & Associates, Inc. Environmental Engineering 45375 Vista Del Mar Temecula, California 92590-4314 (951) 699-2082 ksdpe67@gmail.com
4. Project Location:	Within the City of Redding, Shasta County Section 35, Township 31 North, Range 4 West, Mount Diablo B&M 40º 29' 41.73" N, -122º 16' 46.41" W
5. Project Sponsor's Name and Address:	Northern California Power Agency 651 Commerce Drive Roseville, California 95678 Redding Electric Utility 777 Cypress Avenue Redding, California 96001
6. General Plan Designations:	Public (P)
7. Zoning:	Public (P)
8. Project Description (Describe the whole action involved, including, but not limited to, later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets, if necessary):	NCPA intends to install a solar photovoltaic generation system at the Redding Municipal Airport property. The installed capacity would be 11.4 MW_{dc}.
9. Surrounding Land Uses and Setting:	Mixture of residential uses, agricultural land and open space.
10. Other Public Agencies whose Approval is Required (e.g., permits, financing approval, or participation agreement):	California Regional Water Quality Control Board, Central Valley Region City of Redding

11. Have California Native American Tribes traditionally and culturally affiliated with the project area requested information pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun?	Yes.

3.2 Environmental Factors Potentially Affected

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

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

3.3 Determination

On the basis of this initial evaluation:

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

K. S. Dunbar for

Ron Yuen
Director of Engineering, Generation Services

May 20, 2019
Date

3.4 Chapter Organization

This section describes how this chapter of the Draft Initial Study and Mitigated Negative Declaration is organized. In this analysis, potential reasonably foreseeable impacts are evaluated with respect to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire. Additionally, mandatory findings of significance regarding short-term, long-term, and cumulative impacts are evaluated. Each topic area begins with a listing of the factors identified by the State CEQA Guidelines for analysis, followed by a discussion of the environmental setting, the analysis for each factor, and an overall conclusion.

3.4.1 Environmental Setting

Throughout this document and according to the State CEQA Guidelines, the environmental setting is intended to mean the environmental conditions as they exist at the time the environmental analysis is commenced. The environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to gain an understanding of the significant effects of the proposed Project and its alternatives.

3.4.2 Discussion and Mitigation Measures

The Initial Study includes an analysis of direct and reasonably foreseeable physical changes in the environment from the proposed Project and feasible mitigation measures that would reduce such impacts to a less than significant level. Thresholds of significance for each potential impact are provided as appropriate.

A "significant effect on the environment" is defined in the State CEQA Guidelines Section 15382 as a "substantial or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

"Environment" is defined in the State CEQA Guidelines Section 15360 as "the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

The following requirements for evaluating environmental impacts are cited directly from the State CEQA Guidelines Appendix G.

1) All answers must take into account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

2) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation incorporated, or less than

significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

3) "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant.

4) Earlier analyses may be used where pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. [§15063(c)(3)(D)]. In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Incorporated", describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

5) Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

8) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and

   b) The mitigation measures identified, if any, to reduce the impact to less than significance.

3.5 Aesthetics

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	◙
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	◙
c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	◙
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	◙	☐

3.5.1 Environmental Setting

As shown on Figure 3.5-1, the proposed project site is presently used for agricultural purposes (i.e., production of hay). The Project site is bounded by rural residential properties to the south and east and open space and agricultural lands to the north and west. It is also within the flight path of Runway 30 at the Redding Municipal Airport.

Figure 3.5-1 Proposed Project Site, Redding Airport

3.5.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

There are scenic vistas to the distant mountains from the proposed Project site. However, the solar panels would be of low profile and not interfere with those views. Therefore, there would be no adverse effects on a scenic vista caused by implementation of the Project. Consequently, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

There are no officially designated State scenic highways within Shasta County. However, a portion of Interstate 5 and State Highways 44, 89, 151 and 299 are Eligible State Scenic Highways – Not Officially Designated. None of these highways are within view of the proposed Project site. Therefore, no further analysis or mitigation is required.

Aesthetics c. Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Answer: No Impact.

Discussion:

According to the City of Redding's Airport Land Use Plan, the proposed Project site is designated as public facility. Installation of solar facilities is a permitted use in this designation. Therefore, there would be no conflicts with applicable zoning and therefore no further analysis or mitigation is required.

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

Answer: Less than Significant Impact.

Discussion:

According to the June 2014 Meister Consultants Group Solar and Glare Fact Sheet prepared for the U.S. Department of Energy, a common misconception about solar photovoltaic (PV) panels is that they intently cause or create "too much" glare, posing a nuisance to neighbors and a safety risk for pilots. While in certain situations the glass surfaces of solar PV systems can produce a glint (a momentarily flash of bright light) and glare (a reflection of bright light for a longer duration), light adsorption, rather than reflection is central to the function of a solar PV panel – to absorb solar radiation and convert it to electricity. Solar PV panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV panels reflect as little as two percent of incoming sunlight, about the same as water and less than soil or even wood shingles.

Coffman Associates, Airport Consultants prepared a solar glare hazard analysis for the proposed Project to comply with Federal Aviation Administration (FAA) policies *(Coffman, March 27, 2015)*. FAA requires the use of the Solar Glare Hazardous Tool (SGHAT) which, with user inputs specific to the airport and operating conditions, is used to determine the potential for ocular impact to pilots or air traffic control during typical operations at an airport which could compromise the safety of the air transportation system. Using sun position information, characteristics of the solar array, and user-defined observation points or paths, the SGHAT calculates potential ocular hazards over the entire calendar year in one-minute intervals. Hazards are classified as follows:

- Low potential for temporary after-image.
- Potential for temporary after-image.
- Potential for permanent eye damage.

Based on FAA Interim Policy, the Airport Sponsor must demonstrate that a proposed solar energy system meets the following standards:

- No potential for glint or glare in the existing airport traffic control tower.
- No potential for glare or low potential for after-image along the final 2-mile approach for any existing or planned landing threshold as shown on the current FAA-approved Airport Land Use Plan.

Based on the Coffman study, the proposed Project meets FAA standards outlined in *Interim Policy, FAA Review of Solar Energy Systems Projects on Federally Obligated Airports.*

Based on the above discussion, the potential for substantial glare from the solar PV panels would be considered less than significant and therefore no further analysis or mitigation is required.

3.5.3 Conclusion

No significant impacts were identified; therefore, no further analysis or mitigation is required.

3.6 Agriculture and Forestry Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. *Would the Project:*				
a. Convert Prime Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	◙
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	◙
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 511104(g))?	☐	☐	☐	◙
d. Result in the loss of forest land or conversion of forest land to non-forest uses.	☐	☐	☐	◙
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	◙

3.6.1 Environmental Setting

As shown previously on Figure 3.5-1, the Project site is presently utilized for the production of hay. There are no forest lands on the Project site.

3.6.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

There are no Prime Farmlands or Farmlands of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency at the Project site *(resources.ca.gov, 3/12/2019).* Therefore, there would be no impacts and no further analysis or mitigation is required.

Agriculture and Forestry Resources. b. *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

Answer: No Impact.

Discussion:

The site is zoned as Public (P). It is not under a Williamson Act contract. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The site is not zoned for forest land or timber land use. Therefore, there would be no impacts and no further analysis or mitigation is required.

Agriculture and Forestry Resources. d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

Answer: No Impact.

Discussion:

There is no forest land within the Project site. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

There is no Farmland or forest land at the Project site. Therefore, there would be no impacts and no further analysis or mitigation is required.

3.6.3 Conclusion

No significant impacts were identified; therefore, no further analysis or mitigation is required.

3.7 Air Quality

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

3.7.1 Environmental Setting

Ambient air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence the local and regional dispersal of pollutants. Atmospheric conditions such as wind speed and direction and air temperature gradients combined with local topography provide the link between air pollutant emissions and air quality.

The proposed Project is within the Northern Sacramento Valley Planning Area (NSVPA) which includes Butte, Colusa, Glenn, Shasta, Sutter, Tehama and Yuba Counties. Planning for the attainment and maintenance of both federal and State air quality standards in the Project area is the responsibility of the Air Pollution Control Districts and Air Quality Management Districts for the above-mentioned counties. These agencies agreed to jointly prepare an Air Quality Attainment Plan. The latest plan, *Northern California Valley Planning Area 2015 Triennial Air Quality Attainment Plan,* was prepared by the Sacramento Valley Air Quality Engineers and Professionals (SVAQEP) and adopted on August 7, 2015.

The California Air Resources Board (ARB) provides ambient air quality data for most air basins in the State. A summary of the data available for the nearest monitoring station to the Project area (i.e., Redding – Health Department Roof) is provided in Tables 3.7-1 through 3.7-4.

Table 3.7-1
Ozone Trends Summary: Redding – Health Department Roof
National Standards

	Days > Standard			1-hr Observations				8-hr Observations				
	8-hr			EENED[1]				0.070 Std.		0.075 Std.		
Year	0.070	0.075	0.08	Max.	1-Yr	3-Yr	D.V.[2]	Max.	D.V.[2]	Max.	D.V.[2]	Coverage
2017	3	0	0	*0.082*	*0.0*	*0.0*	*0.082*	0.075	0.069	0.075	0.069	99
2016	5	0	0	*0.084*	*0.0*	*0.0*	*0.084*	0.074	0.070	0.074	0.070	100
2015	0	0	0	*0.078*	*0.0*	*0.0*	*0.082*	0.069	0.062	0.069	0.062	98
2014	5	1	0	*0.090*	*0.0*	*0.0*	*0.082*	0.078	0.060	0.078	0.060	99
2013	0	0	0	*0.078*	*0.0*	*0.0*	*0.073*	0.052	0.056	0.052	0.056	70
2012	0	0	0	*0.082*	*0.0*	*0.0*	*0.078*	0.061	0.060	0.061	0.060	99
2011	0	0	0	*0.073*	*0.0*	*0.0*	*0.078*	0.064	0.064	0.064	0.064	99
2010	0	0	0	*0.077*	*0.0*	*0.0*	*0.089*	0.065	0.069	0.065	0.069	100
2009	0	0	0	*0.084*	*0.0*	*0.0*	*0.090*	0.069	0.071	0.069	0.071	98
2008	12	4	0	*0.090*	*0.0*	*0.0*	*0.093*	0.082	0.075	0.082	0.075	99

Notes: All concentrations expressed in parts per million.
The national 1-hour ozone standard was revoked in June 2005. Statistics related to the revoked standard are shown in *italics* or ***italics***.
National exceedances shown in **orange**.
An exceedance is not necessarily a violation.
Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.
Daily maximum 8-hour averages associated with the National 0.075 ppm standard may come from days that don't have sufficient data for the day to be considered valid, provided the daily maximum 8-hour average itself includes sufficient data to be considered valid.
[1] EENED = Estimated Expected Number of Exceedance Days
[2] D.V. = National Design Value
* There was insufficient (or no) data available to determine the value.

Source: arb.ca.gov, 03/08//2019

Table 3.7-2
Ozone Trends Summary: Redding – Health Department Roof
State Standards

	Days > Standard		1-Hour Observations			8-Hour Averages			Year
Year	1-Hour	8-Hour	Max.	EPDC[1]	D.V.[2]	Max.	EPDC[1]	D.V.[2]	Coverage
2017	0	3	0.082	0.0828	0.08	0.075	0.0778	0.075	99
2016	0	5	0.084	0.0866	0.09	0.074	0.0803	0.079	100
2015	0	0	0.078	*	0.09	0.069	*	0.079	97
2014	0	5	0.090	*	0.09	0.079	*	0.079	100
2013	0	0	0.078	*	0.08	0.053	*	0.065	70
2012	0	0	0.082	0.0765	0.08	0.061	0.0723	0.065	99
2011	0	0	0.073	0.0800	0.08	0.065	0.0707	0.069	99
2010	0	0	0.077	0.0894	0.09	0.065	0.0792	0.079	100
2009	0	0	0.084	0.0891	0.09	0.069	0.0813	0.079	99
2008	0	13	0.090	0.0952	0.10	0.083		0.084	99

Notes: All concentrations expressed in parts per million.
National exceedances shown in **green**.
An exceedance is not necessarily a violation.
[1] EPDC = Expected Peak Day Concentration
[2] D.V. = State Designation Value
*There was insufficient (or no) data available to determine the value.

Source: arb.ca.gov, 03/08/2019

Table 3.7-3
PM_{10} Trends Summary: Redding – Health Department Roof

Year	Est. Days > Std.		Annual Average		3-yr Average		High 24-hr Average		Year Coverage
	Nat'l	State	*Nat'l*	State	*Nat'l*	State	Nat'l	State	
2017	0.0	13.8	*16.2*	16.1	*14*	16	88.9	84.8	96
2016	0.0	0.0	*11.2*	11.1	*12*	13	28.4	27.6	95
2015	0.0	6.5	*13.1*	13.0	*13*	13	80.3	78.3	94
2014	0.0	*	*12.8*	*	*13*	*	71.7	72.8	97
2013	0.0	*	*12.1*	*	*13*	12	29.5	29.8	95
2012	0.0	*	*15.1*	*	*13*	12	34.8	35.0	89
2011	0.0	0.0	*12.4*	12.4	*13*	14	34.9	34.2	99
2010	0.0	*	*11.3*	*	*16*	24	24.6	23.8	90
2009	0.0	0.0	*13.8*	13.8	*18*	24	33.7	32.6	96
2008	6.6	32.7	*24.1*	24.1	*19*	24	236.7	232.0	94
Ambient Standard			--	20			150	50	

Notes: All concentrations expressed in micrograms per cubic meter (µg/m^3).
All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.
The national annual average PM_{10} standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or **italics**.
State exceedances shown in **green**. National exceedances shown in **orange**.
An exceedance is not necessarily a violation.
Statistics may include data that are related to an exceptional event.
State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
- State statistics for 2002 and later are based on *local* conditions.
- National statistics are based on *standard conditions.*
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

*There was insufficient (or no) data available to determine the value.

Source: arb.ca.gov, 03/08/2019

Table 3.7-4
$PM_{2.5}$ Trends Summary: Redding – Health Department Roof

Year	Est. Days > Nat'l '06 Std.	Annual Average Nat'l	Annual Average State	Nat'l Ann. Std. D.V.[1]	State Ann. Std D.V.[2]	Nat'l '06 Std. 98th Percentile	Nat'l '06 24-Hr Std. D.V.[1]	High 24-Hour Average Nat'l	High 24-Hour Average State	Year Coverage
2017	6.1	7.8	7.8	6.8	8	32.2	21	67.3	67.3	98
2016	0.0	5.2	*	6.0	5	12.5	15	12.6	12.6	93
2015	6.6	7.5	*	*	5	19.7	*	64.6	64.6	92
2014	0.0	5.2	5.2	*	6	13.8	*	22.2	22.2	96
2013	*	*	*	*	6	*	*	17.6	17.6	90
2012	0.0	5.9	5.9	5.3	6	17.0	14	26.4	26.4	98
2011	0.0	5.4	*	5.3	6	15.5	15	18.8	18.8	94
2010	0.0	4.6	*	8.4	15	10.3	42	10.7	10.7	94
2009	0.0	5.8	5.8	8.7	15	19.5	44	20.2	20.2	100
2008	29.8	14.7	14.7	9.6	15	97.1	49	200.2	200.2	100

Notes: All concentrations expressed in micrograms per cubic meter.
State exceedances shown in **green**. National exceedances shown in **orange**. An exceedance is not necessarily a violation.
State and national statistics may differ for the following reasons:
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
State and national statistics may therefore be based on different samplers.
State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
[1] D.V. = National Design Value
[2] D.V. = State Designation Value
* There was insufficient (or no) data available to determine the value.

Source: arb.ca.gov, 03/08/2019

Both the ARB and the EPA issue area designations for individual pollutants for California's air basins. The latest designations for Shasta County are shown in Table 3.7-5.

Table 3.7-5
Ambient Air Quality Area Designations for Shasta County

Pollutant	State Area Designation	National Area Designation
Ozone	Non-Attainment	Unclassified/Attainment
Particulate Matter Less than 2.5 microns in diameter ($PM_{2.5}$)	Attainment	Unclassified/Attainment
Particulate Matter Less than 10 microns in diameter (PM_{10})	Attainment	Unclassified
Carbon Monoxide (CO)	Unclassified	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	--
Lead (Pb)	Attainment	Unclassified/Attainment
Hydrogen Sulfide (H_2S)	Unclassified	--
Visibility Reducing Particles	Unclassified	--

Source: arb.ca.gov, 3/08/2019

3.7.2 Discussion and Mitigation Measures

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

Answer: Less than Significant Impact.

Discussion:

The NSVPA was designated as non-attainment for the ozone California Ambient Air Quality Standards. Therefore, as explained above the Districts jointly prepared an Air Quality Attainment Plan.

The 2015 triennial update of the NSVPA Air Quality Attainment Plan (2015 Plan) assesses the progress made in implementing the previous triennial update and proposes modifications to the strategies necessary to attain the CAAQS by the earliest practicable date. The 2015 Plan includes an assessment of progress towards achieving the control measure commitments in the previous Triennial Plan, a summary of the last three years of ozone data, a comparison of the expected versus actual emission reductions for each measure committed to in the previous Triennial Plan, updated control measure commitments, and updated growth rates of population, industry, and vehicle related emissions.

Since the preparation of the 2012 Plan, the NSVPA has observed improvements in the monitoring levels of ozone, especially in Glenn County and Colusa County, which were designated as attainment for the ozone CAAQS effective July 1, 2014. Sutter and Yuba Counties were designated as nonattainment-transitional[1] effective September 25, 2010 and remain so. The remaining counties (Butte, Tehama, and Shasta) remain nonattainment.

In the NSVPA, ozone can be caused by stationary source emissions, such as from internal combustion engines or boilers, mobile sources such as cars, trucks, and trains, or area sources such as consumer products or wildfires. The NSVPA districts also experience transport ozone from the Broader Sacramento Area (BSA), which comprise all of the Sacramento Metropolitan AQMD, Yolo-Solano AQMD, and a portion of El Dorado, Placer, and Sutter Counties. Emissions that were originally created in the BSA can be transported northward via prevailing winds to affect the pollution levels of the NSVPA.

During construction of the Project, ozone precursors (i.e., nitrogen oxides and reactive organic gases) would be emitted as part of the exhaust of off-road construction equipment. These items were included in the 2020 emission inventories contained in the Air Quality Attainment Plan (i.e., 4.114 tons per day NO_x and 2.237 tons per day ROG).

As shown under "b." below, the projected emissions from construction would be less than significant and, therefore, the Project would not conflict or obstruct implementation of the air quality attainment plan and no further analysis or mitigation is required.

Air Quality. b. *Would the project result in cumulatively considerable net increase of any criteria pollutant under an applicable federal or state ambient air quality standard)?*

Answer: Less than Significant Impact.

Discussion:

As previously discussed in Section 3.7.1, the California Air Resources Board has designated Shasta County as non-attainment for the State ozone standard. However, the U.S. Environmental Protection Agency (EPA) has designated Shasta County as unclassified/attainment for the federal ozone standard.

Although the Shasta County AQMD has not developed recommended thresholds of significance for projects that are subject to CEQA review, §40918 of the California Health and Safety Code suggests emission limitations of 25 tons per year for non-attainment pollutants or their precursors. Oxides of nitrogen (NO_x) and reactive organic gases (ROG) are precursors of ozone. Therefore, based on 365 days in a year, the significance threshold for these two precursors would be 137 pounds per day. These thresholds are utilized in this Initial Study to determine significance.

Shasta County AQMD has not established numerical significance thresholds for carbon monoxide (CO) or oxides of sulfur (SO_x). Other AQMDs have established such thresholds among them the South Coast AQMD. For construction projects, those thresholds

[1] HSC §40925.5 defines non-attainment-transitional as an area that does not exceed the State standard more than three times at any monitoring location in a single calendar year.

are 550 pounds per day and 150 pounds per day, respectively. Those thresholds are used in this Initial Study to determine significance.

Although Shasta County is designated as unclassified for particulate matter (PM_{10} and $PM_{2.5}$), particulate matter is a pollutant of regional concern. Therefore, any analysis of this pollutant should be completed on a conservative basis. Consequently, EPA's threshold of 15 tons per year for PM_{10} and 10 tons per year for $PM_{2.5}$ for "major sources" are used to determine significance in this Initial Study. The 15 tons per year threshold equates to 82 pounds per day and the 10 tons per year threshold equates to 55 pounds per day.

The Shasta County AQMD has not adopted significance thresholds for the evaluation of toxic air contaminants (TACs) and associated human health risks. Cancer risks from TACs is typically expressed in numbers of excess cancer cases per million persons exposed over a defined period of exposure, for example, over an assumed 70-year lifetime. Non-cancer health hazards for chronic and acute diseases are expressed in terms of a hazard index (HI), which is ratio of TAC concentration to a reference exposure level (REL), below which no adverse health effects are expected to occur. This analysis relies on commonly applied thresholds typically recommended by other air pollution control districts in California, as identified in the California Air Pollution Control Officers Association's (CAPCOA) *Health Risk Assessments for Proposed Land Use Projects (2009).* Exposure to TACs would be considered significant if the probability of contracting cancer for the maximum exposed individual would exceed 10 in one million or would result in a hazard index greater than one. *(Sacramento Metropolitan Air Quality Management District, May 2015).*

Shasta County AQMD has not adopted significance criteria for the evaluation of greenhouse gas (GHG) emissions. Thresholds for GHG emissions are usually expressed in terms of carbon dioxide equivalents (CO_2 eq). EPA has suggested a reportable significance threshold of 25,000 tons of CO_2 eq per year. However, the Sacramento Metropolitan AQMD has adopted a significance criteria of 1,100 metric tons (MT) per year for construction projects. For the purposes of evaluating the proposed project's GHG impacts, emissions resulting from construction of the project will be quantified and compared to the SMAQMD threshold of 1,100 metric tons of CO_2 eq per year (1,210 tons per year).

A summary of the threshold criteria to determine significance utilized in this Initial Study is provided in Table 3.7-6.

Table 3.7-6
Threshold Criteria Utilized to Determine Significance

Pollutant	Threshold Limit	
	tons per year	pounds per day
Reactive Organic Gases (ROG)	25	137
Carbon Monoxide (CO)	100	550
Oxides of Nitrogen (NO_x)	25	137
Oxides of Sulfur (SO_x)	27	150
Respirable Particulate Matter (PM_{10})	15	82
Fine Particulate Matter ($PM_{2.5}$)	10	55
Toxic Air Contaminants (TACs), Odor and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million Chronic and Acute Hazard Index ≥ 1.0 (project increment)	
GHG	1,100 MT/yr CO_2eq(1,210 tons per year).	

Criteria Pollutants

It is anticipated that NCPA would install solar equipment at the Redding Airport site. A typical construction equipment list for this activity follows:

Equipment	Number	Horsepower	Load Factor[1]	Hours per Day
Compressor	1	106	0.48	4
Crane	1	399	0.43	4
Drill Rig	1	291	0.75	6
Sweeper	1	250	0.68	2
Tractor/Backhoe/Loader	1	108	0.55	4
Trencher	1	63	0.75	4
Utility Trucks	1	479	0.57	2
Water Truck	1	189	0.50	2

Notes:
[1] Percentage of the engines' maximum horsepower rating that the equipment actually operates.

These additional assumptions are also utilized in the air quality analyses for installation of the solar equipment:

- The disturbed area is estimated at 25.0 acres on the peak day of activities.
- There would be two heavy-duty trucks delivering supplies to the site. Mileage for each truck is assumed at 100 miles per day.
- There would be approximately 2 pickup trucks traveling to and from the site by inspectors. Mileage for each pickup would be approximately 100 miles per day.
- Approximately 10 construction workers would be involved at the site on the peak day of activities. Mileage for worker commuters would be approximately 50 per day.
- Construction activities would occur for about 90 days.

K.S. Dunbar & Associates, Inc., developed an Excel Spreadsheet model, based on the California Air Resources Board's 2011 OFFROAD emission factors, that calculates estimated emissions from construction activities. That model was used to estimate construction related emissions from off-road heavy construction equipment. Based on construction occurring in 2019, the model generated estimated construction emissions as shown in Table 3.7-7 (detailed model results are contained in Appendix C)[2].

Table 3.7-7
Estimated Emissions from Off-Road Heavy Construction Equipment
Solar Equipment Installation

	Pollutant (tons per year)[a]					
	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Solar Equipment Installation	0.17	1.17	1.53	0.00	0.01	0.01
Threshold Limits[b]	10	100	10	27	15	10

[a] Use of particulate traps reduces PM_{10} and $PM_{2.5}$ by 85% and oxidation catalysts reduces NO_x by 15%.
[b] Construction-related threshold limits developed to determine significance.

As can be seen by the data in Table 3.7-7, emissions from heavy construction equipment during solar equipment installation would not exceed the construction-related threshold limits contained in Table 3.7-6.

There would also be 2 heavy-duty trucks transporting equipment to the site as well as two pickup trucks utilized by inspectors at the job site. Based on the assumption that each heavy-duty truck and each pickup travel 100 miles per day, exhaust emissions would be as shown in Table 3.7-8.

[2] Should the construction period be delayed, the emissions from heavy construction equipment would be less due to technology improvements and phasing out of older equipment. Therefore, the emissions shown are considered the worst-case scenario.

Table 3.7-8
Estimated Emissions from On-Road Vehicles
Solar Equipment Installation

Equipment	Pollutant (tons per year)					
	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
On-Road Trucks	0.01	0.05	0.13	0.00	0.01	0.01
Pickups	0.01	0.05	0.01	0.00	0.00	0.00
Totals	0.02	0.10	0.14	0.00	0.01	0.01

Vehicles owned by construction workers would be an additional source of air pollutants. An estimate of emissions based on 10 worker vehicles per day of which 100 percent are pickup trucks (gross vehicle weight of 8,500 pounds or less) with an average round trip of 50 miles is presented in Table 3.7-9.

Table 3.7-9
Construction Worker Commute Vehicle Emissions
Solar Equipment Installation

Pollutant (tons per year)					
ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
0.01	0.11	0.01	0.00	0.00	0.00

Earthmoving activities would create fugitive dust emissions. It is estimated that fugitive dust emissions from construction activities on disturbed soil approximate 5 pounds per acre per day (PM_{10}) with no mitigation. However, the application of water as required would reduce the emissions by 61 percent *SCAQMD, October 2016)*. As stated above, it is anticipated that approximately 25 acres would be disturbed at the peak day of activity. Therefore, the resulting PM_{10} emissions would be estimated at 48.75 pounds per day, respectively. SCAQMD also estimates that the $PM_{2.5}$ emissions in fugitive dust are equal to 21 percent of the PM_{10} emissions in fugitive dust *(SCAQMD, October 2006)*. Therefore, the $PM_{2.5}$ emissions would equal 10.24 pounds per day, respectively.

The total estimated emissions from the installation of the solar equipment at the Redding Airport site are shown in Table 3.7-10.

Table 3.7-10
Total Estimated Construction Emissions[a]
Solar Equipment Installation

Source	Pollutant (tons per year)					
	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Construction Equipment	0.17	1.17	1.53	0.00	0.01	0.01
On-Road Vehicles	0.02	0.10	0.14	0.00	0.01	0.01
Worker Commutes	0.01	0.11	0.01	0.00	0.00	0.00
Fugitive Dust	0.00	0.00	0.00	0.00	2.19	0.46
Totals	0.20	1.38	1.68	0.0	2.21	0.48
Threshold Limits[b]	10	100	10	27	15	15

[a] Use of particulate traps reduces PM_{10} and $PM_{2.5}$ by 85% and oxidation catalysts reduces NO_x by 15%.
[b] Construction-related threshold limits developed to determine significance.

As shown in Table 3.7-10, the total estimated emissions from installation of the solar equipment at the Redding Airport site would not exceed the construction-related threshold limits for significance presented in Table 3.7-6. However, the ARB has designated Shasta County as non-attainment for the State ozone standard. Therefore, every effort should be made to minimize emissions within the Northern Sacramento Valley Air Basin. Consequently, to reduce the emissions as much as possible, NCPA will:

- Appoint a construction relations officer to act as a community liaison concerning on-site construction activities including resolution of issues related to PM_{10} generation.

- In addition, NCPA will add the following best management practices in its contract documents for this project:

The contractor shall:

- Utilize electricity from power poles instead of from temporary diesel or gasoline power generators, when feasible.
- Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the contractor shall use trucks that meet EPA 2007 model year NO_x emissions requirements.
- Require that all on-site construction equipment meet EPA Tier 3 or higher emissions standards according to the following:
  - ✓ All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
  - ✓ A copy of each unit's certified tier specification, BACT documentation, and CARB or Shasta County AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.
- Maintain construction equipment engines by keeping them properly tuned and maintained according to manufacturer's specifications.
- Use alternative fuels or clean and low-sulfur fuel for equipment.
- Idle trucks in accordance with the Airborne Toxic Control Measure (ACTM) to Limit Diesel Fueled Commercial Motor Vehicle Idling and other applicable laws.
- Spread soil binders on site, where appropriate, unpaved roads and staging areas.
- Water active construction sites at least twice daily as directed by the City of Redding Public Works Department.
- Sweep all streets at the end of the day if visible soil materials are carried onto adjacent public paved roads (recommend water sweeper with reclaimed water).
- All grading operations shall be suspended when winds (as instantaneous gusts) exceed 20 miles per hour as directed by the Shasta County AQMD.
- If necessary, wash off trucks leaving the site.
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114.

Operation and maintenance personnel might make two or three trips per week to the Project site. Consequently, there would be essentially no emissions associated with vehicle travel to and from the site during operation and maintenance of the new facilities. Operation of the actual facilities would produce essentially no emissions.

Toxic Air Contaminants (TACs)

The combustion of diesel fuel produces diesel particulate matter as a byproduct. Diesel particulate matter has been identified by the California Air Resources Board (ARB) as a toxic air contaminant (TAC). While TACs can have long-term and/or short-term effects, diesel TAC has been shown by the ARB to have little or no short-term impact.

The ARB determined that the chronic impact of diesel particulate matter was of more concern than the acute impact in the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines *(ARB 2000)*. In that document, ARB noted that "Our analysis shows that the potential cancer risk from inhalation is the critical path when comparing cancer and non-cancer risk. In other words, a cancer risk of 10 cases per million from the inhalation of diesel particulate matter (PM) will result from diesel PM concentrations that are much less than the diesel PM or TAC concentrations that would result in chronic or acute non-cancer hazard index values of 1 or greater." Consequently, any analysis of diesel TAC should focus on the long-term, chronic cancer risk posed by diesel emissions. Chronic cancer risk is normally measured by assessing what the risk to an exposed individual from a source of TACs would be if the exposure occurred over 70 years. Diesel emissions related to construction of the proposed Project would only occur for less than a one-year period. Therefore, the impact would be considered less than significant and no further analysis is required.

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

Answer: No Impact.

Discussion:

As shown above, all emissions from construction of the Project would be less than significant based on the threshold limits shown in Table 3.7-6. Therefore, implementation of the Project would not expose sensitive receptors to substantial pollutant concentrations. Consequently, no further analysis or mitigation is required.

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

Answer: Less than Significant Impact.

Discussion:

As shown above in Table 3.7-10, the fugitive dust emissions would be less than significant based on threshold criteria shown in Table 3.7-6. In addition, implementation of the Project would not result in the generation of odors. Consequently, no further analysis or mitigation is required.

3.7.3 Conclusions

No significant impacts were identified; however, NCPA will include best management practices in the construction documents for this Project to ensure there are no significant impacts.

3.8 Biological Resources

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

3.8.1 Environmental Setting

A habitat and jurisdictional assessment was conducted by ELMT Consultant's Biologist Travis J. McGill on March 27, 2019 to document baseline conditions and assess the potential for special-status[3] plant and wildlife species to occur within the Project site that could pose a constraint to implementation of the proposed Project. Special attention was given to the suitability of the Project site to support special-status plant and wildlife species identified by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), and other electronic databases as potentially occurring in the general vicinity of the Project site. EMLT's complete report is included as Appendix C of this document.

Existing Site Conditions

The Project site is comprised of 100 total acres, located in Shasta County, and is situated directly southeast of the Redding Municipal Airport. The Project site is bordered by residential houses to the south and east. The Project site is located on a large, flat open field that is bisected by an existing gravel road. The land is currently leased to a local farmer that is using the field to grow hay. According to National Wetland Inventory (NWI) data and observations made during the site visit, there appears to be suspected wetland areas. Federal Emergency Management Agency (FEMA) data indicate the Project site is located within both

[3] As used in this report, "special-status" refers to plant and wildlife species that are federally and State listed, proposed, or candidates; plant species that have been designated with a California Native Plant Society Rare Plant Rank; wildlife species that are designated by the CDFW as fully protected, species of special concern, or watch list species; and specially protected natural vegetation communities as designated by the CDFW.

the 500-year and 100-year floodplains. The Project is planned to be developed in such a way to avoid these suspected wetlands and 100-year floodplain areas.

The proposed Project footprint is relatively flat at an approximate elevation of 480 feet above mean sea level with no areas of significant topographic relief. Based on the NRCS USDA Web Soil Survey[4], the Project site is underlain by the following soil units: Red Bluff loam (0 to 3 percent slopes), Churn gravelly loam, deep (0 to 3 percent slopes), and Moda loam (0 to 5 percent slopes). Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., agricultural activities).

Vegetation

Due to existing land uses, no native plant communities or natural communities of special concern were observed on or adjacent to the Project site. The Project site primarily consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances. Disturbances have eliminated the natural plant communities that once occurred within the boundaries of the Project site. No native plant communities will be impacted from implementation of the proposed project.

The Project site consists of a land cover type that would be classified as agricultural/disturbed. Plant species observed onsite include alfalfa (*Medicago sativa*), filaree (*Erodium sp.*), fiddleneck (*Amsinckia sp.*), winter vetch (*Vicia villosa*), short-podded mustard (*Hirschfeldia incana*), wild radish (*Raphanus raphanistrum*), yellow sweet clover (*Mililotus officinalis*), soap plant (*Chlorogalum pomeridianum*), bicolor lupine (*Lupinus bicolor*), pine (*Pinus sp.*), henbit (*Lamium amplexicaule*), yerba santa (*Eriodictyon californicum*), and olive (*Olea europaea*).

Wildlife

Plant communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species that were observed or are expected to occur within the Project site. The discussion is to be used a general reference and is limited by the season, time of day, and weather conditions in which the field investigation was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. The Project site provides limited habitat for wildlife species except those adapted to a high degree of anthropogenic disturbances and development.

Fish

No hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish were observed on or within the vicinity of the Project site. No fish are expected to occur and are presumed absent from the Project site.

Amphibians

No amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibian species were observed on the Project site. No amphibians are expected to occur and are presumed absent from the Project site.

Reptiles

During the field investigation, no reptilian species were observed on the Project site. Common reptilian species adapted to a high degree of anthropogenic disturbances that have the potential to occur on the Project site include western side-blotched lizard (*Uta*

[4] A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.

stansburiana elegans), and alligator lizard (*Elgaria multicarinata*). Due to the high level of anthropogenic disturbances on-site, no special-status reptilian species are expected to occur within the Project site.

Birds

The Project site provides foraging and cover habitat for bird species adapted to a high degree of human disturbance. Bird species detected during the field investigation included lesser goldfinch (*Spinus psaltria*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), house finch (*Haemorhouse mexicanus*), American crow (*Corvus brachyrhynchos*), killdeer (*Charadrius vociferus*), western meadowlark (*Sturnella neglecta*) and turkey vulture (*Cathartes aura*). Due to routine disturbance associated with agricultural activities, the Project site does not provide suitable habitat for special-status bird species known to occur in the area.

Mammals

During the field investigation, no mammalian species were observed on the Project site. Common mammalian species adapted to a high degree of anthropogenic disturbances that have the potential to occur within the Project site include California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*).

Nesting Birds

No active nests or birds displaying nesting behavior were observed during the field survey. The Project site and surrounding area provides foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that could occur in the area. The Project site has the potential to provide suitable nesting opportunities for birds that nest on the open ground. Additionally, the trees that border the Project site provide suitable nesting opportunies. A pre-construction nesting bird clearance survey shoul be conducted within three (3) days prior to ground disturbance to ensure no nesting birds will be impacted from site development.

Migratory Corridors and Linkages

Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet still inadequate for others. Wildlife corridors are features that allow for the dispersal, seasonal migration, breeding, and foraging of a variety of wildlife species. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

The proposed Project will be confined to existing disturbed areas partially surrounded by development. The Project site is separated from the influences of Stillwater Creek and the Sacramento River by existing residential developments. Both Stillwater Creek and the Sacramento River support natural habitats which allow wildlife to move through the region in search of food, shelter, or nesting habitat. Implementation of the proposed Project is not expected to result in temporary and/or permanent impacts to potential wildlife movement opportunities along Stillwater Creek or the Sacramento River during construction and operation activities.

Jurisdictional Areas

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The U.S. Army Corps of Engineers Regulatory Branch regulates the discharge of dredge or fill materials into "waters of the United States" pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the California Department of Fish and Wildlife (CDFW) regulates alterations to streambed and bank under Fish and Game Code

Sections 1600 et seq., and the California Regional Water Quality Control Boards regulate discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The Project site does not support any discernible drainage courses, inundated areas, wetland features, or hydric soils that would be considered jurisdictional by the Corps, Regional Board, or CDFW. Therefore, Project activities will not result in impacts to Corps, Regional Board, or CDFW jurisdictional areas and regulatory approvals will not be required.

It should be noted that vacant property west of the Project site has been mapped as supporting freshwater emergent wetland habitats and riverine resources by the NWI. This area, outside of the Project footprint, has not been subject to agricultural activities and supports undisturbed habitats that are lower in elevation than the Project site. During the initial design of the proposed Project footprint, these areas west of the Project site were purposely avoided. As a result, no impacts to the freshwater wetland habitats or riverine resources will occur from the proposed Project.

Special-Status Biological Resources

The CNDDB Rarefind 5 and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Cottonwood and Enterprise USGS 7.5-minute quadrangles. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the Project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified ten (10) special-status plant species, twenty-one (21) special-status wildlife species, and three (3) special-status plant communities as having potential to occur within the Cottonwood and Enterprise USGS 7.5-minute quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the Project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity of the Project site are presented in *Table C-1: Potentially Occurring Special-Status Biological Resources*, provided in Attachment C to the EMLT Consultant's report in Appendix C.

Special-Status Plants

According to the CNDDB and CNPS, ten (10) special-status plant species have been recorded in the Cottonwood and Enterprise quadrangles. No special-status plant species were observed onsite during the habitat assessment. The Project site consists of vacant, undeveloped land that has been subject to agricultural activities and various anthropogenic disturbances. These disturbances have eliminated the natural plant communities that once occurred on-site which has removed suitable habitat for special-status plant species known to occur in the general vicinity of the Project site. Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the Project site does not provide suitable habitat for any of the special-status plant species known to occur in the area and are presumed to be absent from the Project site. No focused surveys are recommended.

Special-Status Wildlife

According to the CNDDB, twenty-one (21) special-status wildlife species have been reported in the Cottonwood and Enterprise quadrangles. No special-status wildlife species were observed onsite during the habitat assessment. The Project site consists of vacant, undeveloped land that has been subject to agricultural activities and various anthropogenic disturbances. These disturbances have eliminated the natural plant communities that once occurred on-site which have greatly reduced potential foraging opportunities for wildlife species.

Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the Project site does not provide suitable habitat for any of the special-status wildlife species known to occur in the area and are presumed to be absent from the Project site. No focused surveys are recommended.

Special-Status Plant Communities

According to the CNDDB, three (3) special-status plant communities have been reported in the Cottonwood and Enterprise USGS 7.5-minute quadrangles: Great Valley Cottonwood Riparian Forest, Great Valley Oak Riparian Forest, and Great Valley Willow Scrub. Based on the results of the field investigation, no special-status plant communities were observed onsite.

Critical Habitat

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS) regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a CWA Permit from the Corps). If a there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The Project site is not located within federally designated Critical Habitat. Refer to Exhibit 6, *Critical Habitat* in Attachment A in the ELMT report in Appendix C. The nearest designated Critical Habitat is located approximately 0.12 mile west of the Project site for slender Orcutt grass (*Orcuttia tenuis*) associated with undeveloped lands (Stillwater Plains), and approximately 0.15 mile east of the Project site for steelhead (*Oncorhynchus mykiiss*) associated with Stillwater Creek. Therefore, the loss or adverse modification of Critical Habitat from site development will not occur and consultation with the USFWS for impacts to Critical Habitat will not be required for implementation of the proposed Project.

3.8.2 Discussion and Mitigation Measures

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

No special-status plant or wildlife species were observed on the Project site during the site visit. However, The Project site and surrounding area provides foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that could occur in the area. The Project site has the potential to provide suitable nesting opportunities for birds that nest on the open ground. Additionally, the trees that border the Project site provide suitable nesting opportunies. A pre-construction nesting bird clearance survey shoul be conducted within three (3) days prior to ground disturbance to ensure no nesting birds will be impacted from site development.

Therefore, NCPA will include the following in its contract documents for this Project:

- If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds shall be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a no-disturbance

buffer. The size of the no-disturbance buffer (generally 300 feet for migratory and non-migratory song birds and 500 feet for raptors and special-status species) will be determined by the wildlife biologist, in coordination with the CDFW, and will depend on the level of noise and/or surrounding disturbances, line of sight between the nest and the construction activity, ambient noise, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area can occur.

Implementation of the above mitigation measure will ensure that the impacts to nesting birds are less than significant.

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

Answer: No Impact.

Discussion:

As discussed above, there are no riparian habitats or other sensitive natural communities on the Project site. Therefore, no further analysis or mitigation is required.

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

Answer: No Impact

Discussion:

As stated above, the Project site does not support any discernible drainage courses, inundated areas, wetland features, or hydric soils that would be considered jurisdictional by the Corps, Regional Board, or CDFW. Therefore, Project activities will not result in impacts to Corps, Regional Board, or CDFW jurisdictional areas and regulatory approvals will not be required.

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

Answer: No Impact.

Discussion:

As stated above, the proposed Project will be confined to existing disturbed areas partially surrounded by development. The Project site is separated from the influences of Stillwater Creek and the Sacramento River by existing residential developments. Both Stillwater Creek and the Sacramento River support natural habitats which allow wildlife to move through the region in search of food, shelter, or nesting habitat. Implementation of the proposed Project is not expected to result in temporary and/or permanent impacts to potential wildlife movement opportunities along Stillwater Creek or the Sacramento River during construction and operation activities.

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

Answer: No Impact.

Discussion:

There are no local policies or ordinances protecting biological resources that would apply to the Project. Therefore, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

There are no adopted habitat conservation plans that apply to the Project site. Therefore, no further analysis or mitigation is required.

3.8.3 Conclusion

Implementation of the above mitigation measures will insure that the impacts to biological resources are reduced to a level of less than significant.

3.9 Cultural Resources

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

3.9.1 Environmental Setting

Anza Resource Consultants (Anza) was retained by K.S. Dunbar & Associates, Inc. to conduct a Phase I cultural resources study for the Northern California Power Agency (NCPA) Solar Project 1 – Redding Airport Site in the City of Redding, Shasta County, California. The proposed project is subject to the California Environmental Quality Act (CEQA) with NCPA serving as lead agency. Because of its proximity to the airport, the project also requires permitting from the Federal Aviation Administration (FAA) and, therefore, must also comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act.

Anza's report which is included in Appendix D contains definition of the project area of potential effects (APE), a cultural resources records search, Sacred Lands File search and Native American scoping, a pedestrian survey of the project site, and preparation of a technical report in compliance with the cultural resources requirements of CEQA, NEPA, and Section 106.

The cultural resource records search, Native American scoping, and pedestrian survey identified no cultural resources within or adjacent to the project APE. Anza recommends a finding of ***no impact to historical resources*** under CEQA and ***no historic properties affected*** under NEPA. No further cultural resources study is recommended; however, the standard measures are recommended to avoid potential impacts from the unanticipated discovery of cultural resources during project related ground disturbing activities.

3.9.2 Discussion and Mitigation Measures

Cultural Resources. a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

Answer: No Impact.

Discussion:

No resources were identified in the historic properties directory within one-mile of the project APE. Therefore, there would be no impacts to historic resources and no further analysis or mitigation is required.

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

A single prehistoric sparse lithic artifact scatter (P-45-001768) was recorded within one mile of the project APE. This site was mapped approximately 0.75-mile northeast of the project APE, across Stillwater Creek. The Northeast Information Center (NEIC) provided additional information regarding historic period features loosely mapped between 0.25-mile and one mile north of the

project APE; however, these features were not formally mapped, recorded, or evaluated for the California Register of Historic Resources (CRHR) or National Register of Historic Properties (NRHP) listing.

Although there were no archaeological resources identified on-site, there is always the possibility of inadvertent discovery of resources during excavation. Therefore, NCPA will adhere to the following:

- Prior to the start of construction, NCPA shall hold a pre-grading meeting. The Project Archaeologist shall attend the pre-grading meeting with NCPA's Project Administrator, Field Engineering Inspector and any contractors to conduct a Cultural Resources Worker Sensitivity Training for all construction personnel working on the proposed Project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated, and any other appropriate protocols.

- In addition, NCPA will include the following mitigation measures in its contract documents for this project.

  - ✓ In the unlikely event that potentially significant archaeological materials are encountered during construction activities, all work shall be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery, access the significance of the archaeological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of cultural material that might be discovered during excavation shall be in accordance with applicable laws and regulations.

  - ✓ All sacred items, should they be encountered within the Project sites, shall be avoided and preserved as the preferred mitigation, if feasible. All cultural materials that are collected during excavation and other earth disturbing activities on the Project sites, with the exception of sacred items, burial goods and human remains which will be addressed in any required Treatment Agreement, shall be tribally curated according to the current repository standards. The collections and associated records shall be transferred, including title, to the closet tribe to the Project site.

Cultural Resources. d. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

No human remains are known to occur onsite. However, there is always the possibility of inadvertent discoveries during excavation activities. Therefore, NCPA will include the following in its contract documents for the proposed Project:

- In the event of an accidental discovery or recognition of any human remains, the County Coroner shall be notified and construction activities at the affected work site shall be halted. If the coroner determines the remains to be Native American: (1) the coroner shall contact the Native American Heritage Commission (NAHC) within 24-hours, and (2) the NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American. The treatment and disposition of human remains that might be discovered during excavation shall be in accordance with applicable laws and regulations.

3.9.3 Conclusion

Implementation of the above will iesure that the impacts to cultural resources are less than significant.

3.10 Energy

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

3.10.1 Environmental Setting

The City of Redding's Electric Utility (REU) was founded in 1921. REU serves approximately 44,000 residential and commercial customers within the City of Redding. It provides its customers with approximately 800,000 megawatt hours of electricity annually with a peak load of over 250 megawatts. Today, REU continues to create value and deliver exceptional services through the challenges of meeting an uncertain regulatory future. It has been a member of the Northern California Power Agency for over 30 years.

3.10.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

During construction, it would be necessary to use diesel-powered equipment. This would not be considered a wasteful, inefficient or unnecessary consumption of energy resources.

It is proposed to install solar photovoltaic electric generation systems at the Redding Municipal Airport site. The installed capacity would be 11.4 MW_{dc}. It is anticipated that these facilities would generate a total of approximately 19,305 MWhr during its first year of operation. This generation of electrical energy would far outweigh the minor amount of resources used to construct the facilities.

Therefore, there would be no impacts to energy caused by implementation of the Project. Consequently, there would be no further analysis or mitigation required.

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

Answer: No Impact.

Discussion:

The addition of approximately 11.4 MW_{dc} of renewable energy generation would assist NCPA and the City of Redding in meeting their goals of a 60 percent Renewable Portfolio Standard (RPS) by 2030. Therefore, implementation of the Project would not conflict or obstruct implementation of that plan. Consequently, no further analysis or mitigation is required.

3.10.3 Conclusion

No adverse impacts were identified; therefore, no further analysis or mitigation is required.

3.11 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	◙	☐
i. Strong seismic ground shaking?	☐	☐	◙	☐
ii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	◙
iii. Landslides?	☐	☐	☐	◙
b. Result in substantial soil erosion or the loss of topsoil?	☐	◙	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	◙
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	◙
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	◙
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	◙	☐	☐

3.11.1 Environmental Setting

Geologic Setting

The Project site is in the Sacramento Valley, the northerly of two large valleys comprising the Great Valley Geomorphic Province, which is about 400 miles long and 50 miles wide. The southernly valley is the San Joaquin. The Northern Sacramento Valley is surrounded by the Sierra Nevada to the southeast, the Coast Ranges including the Trinity Mountains to the west and the Cascade Range to the north and northeast.

The Project area is underlain by highly weathered Pleistocene-age gravels of the Red Bluff Formation (Qc).

Seismicity

The following discussion on seismicity is taken from the April 2018 *Draft Environmental Impact Report for the River Crossing Marketplace Specific Plan (State Clearinghouse No. 2017052030)* prepared for the City of Redding by Placeworks.

The nearest active faults are the Rocky Ridge Fault about 44 miles northeast of the Project site and the Hat Creek Fault approximately 50 miles east of the site. Active faults are those showing evidence of surface displacement within the last 11,000 years. The nearest significant fault to the Project site is the Battle Creek Fault about 12 miles to the south (Figure 3.11-1). The Battle Creek Fault is not mapped as active by the California Geological Survey; however, the fault is considered the closet active and potentially active fault to the Shasta Dam by the US Bureau of Reclamation.

The nearest Alquist-Priolo Earthquake Fault Zone to the Project site is along the Rocky Ledge Fault about 44 miles to the northeast.

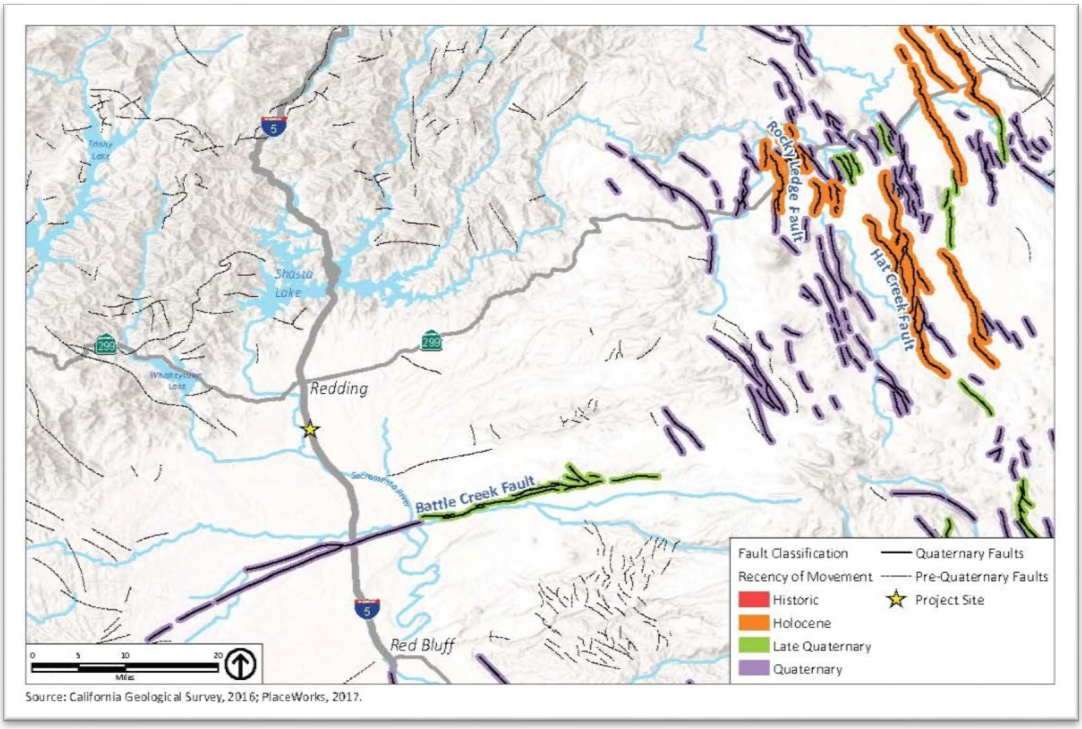

Figure 3.11-1 Regional Fault Map

Soils

According to the U.S. Department of Agriculture's National Conservation Service's Web Soils Survey for Shasta County, soils at the site are composed of Red Bluff loams (RbA) with 0 to 3% slopes.

3.11.2 Discussion and Mitigation Measures

Geology and Soils. a. i. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

Answer: No impact.

Discussion:

The Alquist-Priolo Earthquake Fault Zoning Act identifies special study zones for areas where existing known faults are located. The main purpose of the Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act also required the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. As shown previously on Figure 3.11-1, the nearest Alquist-Priolo Earthquake Fault Zone is approximately 44 miles from the proposed Project site. Therefore, no further analysis or mitigation is required.

Geology and Soils. a. ii. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

Answer: Less than Significant.

Discussion:

The potential for strong seismic ground shaking in the Project area is similar to that in surrounding areas. Because the Proposed Project consists of facilities that are not intended for human habitation, the Proposed Project will not expose people or critical structures to adverse effects resulting from seismic-related ground failure, including liquefaction. In addition, the Proposed Project facilities are specifically designed to withstand seismic conditions anticipated to occur at the Proposed Project site. Seismic conditions expected to occur in the Proposed Project area can be mitigated by special design using reasonable construction and/or maintenance practices common to the Shasta County area. Any potential impacts would be considered less than significant and no further analysis or mitigation is required.

Geology and Soils. a. iii. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*

Answer: Less than Significant.

Discussion:

According to the City of Redding's Health and Safety Element, the risk of ground shaking and liquefaction (transformation of water-saturated granular soils to a liquid state during ground shaking) in the Project area is considered low. Any potential impacts would be considered less than significant; therefore, no further analysis or mitigation is required.

Geology and Soils. a. 4. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*

Answer: No Impact.

Discussion:

According to the City of Redding's Health and Safety Element, seismically triggered landslides or other types of ground failure, including expansive soils (those that swell when wet and shrink when dry) and subsidence (gradual settling or sinking of an area with little or no horizontal movement) are not considered a significant hazard in the Project area. Therefore, no further analysis or mitigation is required.

Geology and Soils. b. *Would the project result in substantial soil erosion or the loss of topsoil?*

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

The Red Bluff soil types in the Project area have a moderate potential for wind erosion. Up to 25 acres of these soils could be exposed during installation of the solar equipment at the Redding Airport site. However, strict adherence to NCPA's best management practices for air quality control would insure that these potential impacts were less than significant.

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

Answer: No Impact.

Discussion:

As stated above, the Project area is not located on a geologic unit or soil that would become unstable. Therefore, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

Expansive soils are largely composed of clay which expand in volume when water is absorbed and shrink when dried. The soils at the Project sites are loams which are not susceptible to expansion and shrinking. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project does not include the use of septic tanks or alternative wastewater disposal systems. Therefore, there are no impacts associated with the use of septic tanks or alternative wastewater disposal systems and no mitigation is required.

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

There is always the possibility of an inadvertent discovery of paleontological resources during construction. However, NCPA's construction documents for the Project will include the following best management practices:

- In the unlikely event that potentially significant paleontological materials (e.g., fossils) are encountered during construction of the project, all work shall be halted in the vicinity of the paleontological discovery until a qualified paleontologist can visit the site of discovery, assess the significance of the paleontological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of paleontological material that might be discovered during excavation shall be in accordance with applicable laws and regulations.

3.11.3 Conclusion

Strict adherence to NCPA's best management practices outlined above would insure that no significant impacts to geology and soils would occur; therefore, no further analysis or additional mitigation is required.

3.12 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?	☐	☐	◙	☐
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emission of greenhouse gases?	☐	☐	☐	◙

3.12.1 Environmental Setting

Under Assembly Bill 32 (AB 32) greenhouse gases (GHGs) are defined as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (NO_2), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6),

GWP is a measure of how much a given mass of greenhouse gas is estimated to contribute to global warming. It is a relative scale that compares the gas in question to the same mass of carbon dioxide (whose GWP by definition is 1). A GWP is calculated over a specific time interval and the value of this must be stated whenever a GWP is quoted or else the value is meaningless. A substance's GWP depends on the time span over which the potential is calculated. A gas which is quickly removed from the atmosphere may initially have a large effect but for longer time periods as it has been removed becomes less important. For the purposes of a CEQA analysis, especially an analysis of operating emissions, the maximum GWP is typically used, regardless of the actual atmospheric lifetime. This approach simplifies the analysis and provides a very conservative analysis, especially for the fluorinated gases. The GWP of the six Kyoto GHGs is shown in Table 3.12-1 [U.S. EPA (www.epa.gov)].

Table 3.12-1
Global Warming Potential of Kyoto GHGs

Gas	Atmospheric Lifetime	GWP
Carbon Dioxide (CO_2)	50 – 200	1
Methane (CH_4)	12 ± 3	21
Nitrous Oxide (NO_2)	120	310
HFC-23 (Hydrofluorocarbons)	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
CF_4 (Perfluorocarbons)	50,000	6,500
C_2F_6	10,000	9,200
C_4F_{10}	2,600	7,000
C_6F_{14}	3,200	7,400
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: U.S. EPA (www.epa.gov)

According to the California Air Resources Board's *California Greenhouse Gas Emission for 2000 to 2016 Trends of Emissions and Other Indicators,* California uses the annual statewide greenhouse gas (GHG) emission inventory to track progress toward meeting statewide GHG targets. The inventory for 2016 shows that California's GHG emissions continue to

decrease, a trend observed since 2007. In 2016, emissions from routine GHG emitting activities statewide were 429 million metric tons of CO_2 equivalent ($MMTCO_2e$), 12 $MMTCO_2e$ lower than 2015 levels. This puts total emissions just below the 2020 target of 431 million metric tons. Emissions vary from year-to-year depending on the weather and other factors, but California will continue to implement its greenhouse gas reductions program to ensure the state remains on track to meet its climate targets in 2020 and beyond. These reductions come while California's economy grows and continues to generate jobs. Compared to 2015, California's GDP grew 3% while the carbon intensity of its economy declined by 6%.

- The largest reductions came from the electricity sector which continues to see decreases as a result of the state's climate policies, which led to growth in wind generation and solar power, including growth in both rooftop and large solar array generation.
- The abundant precipitation in 2016 provided higher hydropower to the state.
- The industrial sector shows a slight decrease in emissions in the past twoyears.
- The transportation sector remains the largest source of GHG emissions in the state and saw a 2% increasein emissions in 2016.
- Emissions from the remaining sectors are relatively constant in recent years, although emissions from high Global Warming Potential (GWP) gases also continued to increase as they replace Ozone Depleting Substances (ODS) banned under the 1987 Montreal Protocol.

3.12.2 Discussion and Mitigation Measures

Greenhouse Gas Emissions. a. *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?*

Answer: Less than Significant.

Discussion:

As shown in the Air Quality section, construction of the Project would generate exhaust emissions, including GHGs. from the construction equipment and on-road vehicles. The carbon dioxide equivalent of those emissions (CO_2 and CH_4) are estimated at 340 metric tons during 2019. The Shasta County AQMD has not established threshold limits for GHGs. However, the Sacramento Metropolitan Air Quality Management District (SMAQMD) has suggested a threshold limit of 1,100 metric tons per year. Based on this threshold limit, emissions of GHGs during construction of the project would be less than significant. Therefore, no further analysis or mitigation is required.

Operation of the Project has the potential to lower GHG emissions as the production of solar power does not produce GHGs as opposed to fossil fuel or gas-fired generation facilities.

Greenhouse Gas Emissions. b. *Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emission of greenhouse gases?*

Answer: No Impact.

Discussion:

As previously stated in the Energy section, the addition of approximately 11.4 MW_{dc} of renewable energy generation would assist NCPA and the City of Redding in meeting its goals of a 60 percent Renewable Portfolio Standard (RPS) by 2030. Therefore, implementation of the Project would not conflict or obstruct implementation of that plan. Consequently, no further analysis or mitigation is required.

3.12.3 Conclusion

No significant impacts were identified; therefore, no further analysis or mitigation is required.

3.13 Hazards and Hazardous Materials

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

3.13.1 Environmental Setting

Hazards

Seismic and Geologic Hazards

Seismic and geologic hazards were discussed in Section 3.11.

Fire

According to Cal Fire maps, the Project site is not within a State Responsibility Area or a Fire Hazard Severity Zone.

Flooding

The Project site is shown on the Federal Emergency Management Agency's Flood Insurance Rate Map 06089C1570G as an Area of Minimal Flood Risk (Zone X).

Hazardous Materials

Several standard environmental record services are available to determine the potential for recognized environmental conditions in an area. Those databases are briefly described in the following paragraphs.

Superfund Enterprise Management System (SEMS)

In 2014, the Superfund Program implemented a new information system, the Superfund Enterprise Management System (SEMS). SEMS integrates multiple legacy systems (e.g., CERCLIS, ICTS, SDMS) into a comprehensive tracking and reporting tool,

providing data on the inventory of active and archived hazardous waste sites evaluated by the Superfund program. It contains sites that are either proposed to be, or are on, the National Priority List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. SEMS also includes information from the California Department of Toxic Substances Control's Envirostor database. The SEMS search did not reveal any sites in the City of Redding.

Envirostor

Envirostor is a database maintained and primarily used by the California Department of Toxic Substances Control (DTSC) to determine the location of all hazardous waste sites. The Envirostor search did not reveal any active sites near the Project site.

Geotracker

Geotracker is the State Water Resources Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites. The Geotracker search did not reveal any active sites near the Project site.

Leaking Underground Storage Tank Information System (LUSTIS)

The State Water Resources Control Board (State Water Board) administers the Leaking Underground Storage Tank Information System (LUSTIS). The LUSTIS database includes all reported leaks from underground storage tanks. The LUSTIS database is now reported in the Geotracker results.

Site Mitigation Program Property Database (formerly CalSites)

The California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) administers the CalSites program. Information in the CalSites database is preliminary in nature; therefore, most sites listed in the database need additional work to determine if contamination exists. There are no sites in the CalSites database within the Project area.

Hazardous Waste and Substances Sites List (Cortese)

California's Government Code §65962.5 requires the California Department of Toxic Substances Control to develop, at least annually, an updated list of Hazardous Waste and Substances Sites. This list, known as the Cortese List, is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local agencies are required to provide additional hazardous materials release information for the Cortese List. The Cortese List is to be submitted to the Secretary of the California Environmental Protection Agency. There are no sites on the Cortese List within the Project area.

Solid Waste Information System (SWIS)

The Solid Waste Information System (SWIS) is a database provided by the California Department of Resources Recycling and Recovery (CalRecycle) which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations. There are no active sites in the SWIS database within the Project area.

3.13.2 Discussion and Mitigation Measures

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

Implementation of the proposed Project would not create any significant hazards as a result of the routine transport, use, storage, or disposal of hazardous materials. However, construction would include the temporary use and transport of fuels, lubricating fluids, solvents and other hazardous materials. The contractor would be required to adhere to the requirements of a *Health and Safety Plan* that it would develop for the Project pursuant to Chapter 6.95, Division 20 of the Health and Safety Code (§§ 25500—25532) as shown in the following mitigation measures.

- During project construction, the construction contractor shall implement the following measures to address the potential environmental constraints associated with the presence of hazardous materials associated construction of the Project to the satisfaction of NCPA:

  - The contractor shall prepare a Health and Safety Plan in compliance with the requirements of Chapter 6.95, Division 20 of the Health and Safety Code (§25500 – 25532). The plan shall include measures to be taken in the event of an accidental spill.

  - The contractor shall enforce strict on-site handling rules to keep construction and maintenance materials out of receiving waters and storm drains. In addition, the contractor shall store all reserve fuel supplies only within the confines of designated construction staging areas; refuel equipment only with the designated construction staging areas; and regularly inspect all construction equipment for leaks.

  - The construction staging area shall be designed to contain contaminants such as oil, grease, and fuel products to ensure that they do not drain towards receiving waters or storm drain inlets.

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

Construction equipment used to construct the Project facilities would have the potential to release oils, grease, solvents and other finishing products through accidental spills. However, adherence to the above mitigation measures would result in less-than-significant impacts. Therefore, no further analysis or additional mitigation is required.

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

Answer: No Impact.

Discussion:

There are no known schools, existing or proposed, within one-quarter mile of the Project site. Therefore, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

Several standard environmental record services are available to determine the potential for recognized environmental conditions in an area. Those databases include:

- Superfund Enterprise Management System (SEMS)
- Envirostor
- Geotracker
- Site Mitigation Program Property Database (formerly CalSites)
- Hazardous Waste and Substances Sites List (Cortese)
- Solid Waste Information System (SWIS)

These databases were searched for the presence of hazardous materials sites within the Project area. According to those databases, there are no active sites in the Project area. Therefore, no further analysis or mitigation is required.

Hazards and Hazardous Materials. e. *Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and if so, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

Answer: No Impact.

Discussion:

The Project site is with the Redding Municipal Airport Land Use Plan. A small portion of the northwest corner of the Project site is within the existing runway protection zone (RPZ) of runway 12. However, the master plan for the airport shows the abandonment of runway 12 and the construction of a new parallel runway to 16R34L. The flight path of the new runway (16L34R) would be west of the Project site. According to the City's Noise Element, the Project site is within the 55 CNEL (community noise equivalent level) contour from activities at the airport. Exposure to this noise level would not be harmful to people working in the Project area. Therefore, there would be no impacts and no further analysis or mitigation is required.

Hazards and Hazardous Materials. f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Answer: No Impact.

Discussion:

Implementation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as it would not be constructed within public rights-of-way. Therefore, there would be no impacts and no further analysis or mitigation is required.

Hazards and Hazardous Materials. h. *Would the project expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?*

Answer: No Impact.

Discussion:

The Project area is not within a high fire severity zone or a state fire responsibility area. Therefore, there would be no impacts and no further analysis or mitigation is required.

3.13.3 Conclusion

Implementation of the above mitigation measures will ensure that the impacts associated with hazards and hazardous materials are reduced to a less than significant level and no further environmental review or mitigation is required.

3.14 Hydrology and Water Quality

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

3.14.1 Environmental Setting

The Project site is within the Sacramento River Basin which covers 27,210 square miles and includes the entire area drained by the Sacramento River. The principal streams are the Sacramento River and its larger tributaries: Pit, Feather, Yuba, Bear and American Rivers to the east; and Cottonwood, Stony, Cache, and Putah Creeks to the west. Major reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake and Lake Berryessa.

The Sacramento River Watershed falls under the jurisdiction of the California Regional Water Quality Control Board, Central Valley Region. The Regional Board has established beneficial uses and water quality objectives for the Sacramento River in its Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin.

The Project site lies over the Enterprise Sub-basin of the Redding Groundwater Basin. The Redding Groundwater Basin underlies about 544 square miles in the north end of the Sacramento Valley, The Enterprise Sub-basin underlies about 95 square miles in the northeast portion of the Redding Groundwater Basin.

3.14.2 Discussion and Mitigation Measures

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

Generally, during site grading and excavation activities, bare soil would be exposed to wind and water erosion. If precautions are not taken to contain sediments, construction activities could produce sediment laden storm runoff. In addition to increased erosion

potential, hazardous materials associated with construction equipment could adversely affect water quality if spilled or stored improperly. (See Section 3.13.2 for a full discussion and mitigation measures associated with hazardous materials.) Implementation of the following mitigation measures would insure that all impacts to water quality were less than significant.

- All site grading and excavation activities associated with the construction of the Project facilities would be subject to the provisions of the National Pollutant Discharge Elimination System (NPDES) Construction Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities [NPDES No. CAS000002 (State Water Resources Control Board Order No. 2009-0009-DWQ)]. Compliance with the provisions of that Order would require NCPA to obtain coverage before the onset of construction activities. Construction activities would comply with the conditions of these permits that include preparation of storm water pollution prevention plans (SWPPP), implementation of BMP's, and monitoring to insure impacts to water quality are minimized. As part of this process, multiple BMP's should be implemented to provide effective erosion and sediment control. These BMP's should be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. BMP's to be implemented may include, but not be limited to, the following:

  - ✓ Temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other groundcover shall be employed for disturbed areas.

  - ✓ Storm drain inlets on the site and in downstream offsite areas shall be protected from sediment with the use of BMP's acceptable to NCPA, local jurisdictions and the California Regional Water Quality Control Board, Central Valley Region.

  - ✓ Dirt and debris shall be swept from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events.

  - ✓ No disturbed surfaces shall be left without erosion control measures in place. NCPA, or its Construction Contractor, shall file a Notice of Intent with the Regional Board and require the preparation of a pollution prevention plan prior to commencement of construction. NCPA shall routinely inspect the construction site to verify that the BMP's specified in the pollution prevention plan are properly installed and maintained. NCPA shall immediately notify the contractor if there were a noncompliance issue and require immediate compliance.

- The SWPPP will also identify the method of final stabilization of the site to ensure no post-construction erosion and impacts to water quality will occur. The Notice of Termination (NOT) and release of the Project from the provisions of the Construction General Permit coverage will be granted by the California Regional Water Quality Control Board, Central Valley Region once it is satisfied that no impacts to water quality will occur.

Hydrology and Water Quality. b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable ground management of the basin?*

Answer: No Impact.

Discussion:

The proposed Project includes the installation of solar photovoltaic facilities and does not include any facilities to extract groundwater. It will not result in the use of groundwater and thus will not substantially deplete groundwater supplies or interfere with groundwater recharge. Therefore, no further analysis or mitigation is required.

Hydrology and Water Quality. c.i. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?*

Answer: No Impact.

Discussion:

The Project site is essentially level and will require only a minimum amount of grading. The panels will be installed on penetrating piers that would have a negligible effect on runoff from the site. Therefore, no impacts to the existing drainage pattern of the site would occur. Consequently, no further analysis or mitigation is required.

Hydrology and Water Quality. c.ii. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would result in flooding on- or off-site?*

Answer: No Impact.

Discussion:

As discussed above, no impacts to the existing drainage pattern of the site would occur. Consequently, no further analysis or mitigation is required.

Hydrology and Water Quality. c.iii. *Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?*

Answer: No Impact.

Discussion:

As discussed above, no impacts to the existing drainage pattern of the site would occur. Consequently, no further analysis or mitigation is required.

Hydrology and Water Quality. c.iv. *Would the project impede or redirect flood flows?*

Answer: No Impact.

Discussion:

As discussed above, no impacts to the existing drainage pattern of the site would occur. Consequently, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

According to the Federal Emergency Management Agency's Flood Insurance Rate Map 06089C1935G, the proposed Project site is within an Area of Minimal Flood Risk (Zone X). Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

As shown above, the Project would have no effect on water quality and therefore would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Consequently, no further analysis or mitigation is required.

3.14.3 Conclusion

Implementation of the above mitigation measures would insure that the impacts to water quality would be less than significant.

3.15 Land Use and Planning

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

3.15.1 Environmental Setting

The proposed city-owned Project site is currently utilized for growing hay by a tenant farmer. It is designated as Public (P) in the City's Airport Land Use Plan. Solar installations are permitted uses in this land use designation.

3.15.2 Discussion and Mitigation Measures

Land Use and Planning. a. *Would the project physically divide an established community?*

Answer: No Impact.

Discussion:

As stated above, the proposed City-owned Project site is currently utilized for growing hay by a tenant farmer. There is a small rural residential area to the south of the Project site; however, implementation of the Project would not change the access to this rural subdivision and, therefore, not physically divide an established community. Consequently, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

As stated above, solar installations are permitted uses in the designated land use. Therefore, no further analysis or mitigation is required.

3.15.3 Conclusions

No significant effects were identified; therefore, no further analysis or mitigation is required.

3.16 Mineral Resources

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

3.16.1 Environmental Setting

According to the City of Redding's Land Use Map, there are no mineral resources sites within the Project area.

3.16.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

There are no known mineral resources in the Project area that would be of value to the region and the residents of the State. Therefore, there would be no impacts anticipated and no mitigation is required.

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

Answer: No Impact.

Discussion:

There are no locally-important mineral resource recovery sites delineated on the applicable local general plans, specific plan or other land use plan in the Project area. Therefore, there would be no impacts anticipated and no mitigation is required.

3.16.3 Conclusion

No impacts are anticipated; therefore, no further analysis or mitigation is required.

3.17 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	◙
b. Generation of excessive groundbourne vibration or groundbourne noise levels?	☐	☐	☐	◙

3.17.1 Environmental Setting

The ambient noise level of a region is the total noise generated within the specific environment and is usually composed of sounds emanating from natural and manmade sources. Noise levels monitored in a region tend to have wide spatial and temporal variation due to the great diversity of contributing sources. This is especially true for the greater project area with its blend of rural land uses adjacent to a mix of residential and agricultural uses.

Characterization of the Project area noise levels is difficult due to the lack of actual field measurements. Very little noise measurement data are available for the Project area in general. However, typical noise levels for areas like the Project area are in the range of 45 to 55 dB(A).

Generally, the noise levels in the Project area are affected by natural and manmade sources. However, the sound levels are more strongly influenced by human rather than natural sound sources. Within the Project area, the major sources of noise include aircraft and vehicular traffic.

3.17.2 Discussion and Mitigation Measures

Noise. a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Answer: No Impact.

Discussion:

Section 18.40.100 of the Redding Municipal Code includes the following restrictions related to construction noise:

> *Operation of any tools or equipment used in construction or demolition work in or within 500 feet of a residential district are prohibited during the following times:*
>
> - *May 15 through September 15: Between the weekday hours of 7:00 p.m. and 6:00 a.m. and weekends and holidays between 8:00 p.m. and 9:00 a.m.*
> - *September 16 through May 14: Between the weekday hours of 7:00 p.m. and 7:00 a.m. and weekends and holidays between 8:00 p.m. and 9:00 a.m.*

Construction would not occur during the restricted hours shown above. Consequently, no further analysis or mitigation is required.

Noise. b. *Would the project result in generation of excessive groundbourne vibration or groundbourne noise levels?*

Answer: No Impact.

Discussion:

Construction activities associated with the Project could result in some minor amount of ground vibration. The California Department of Transportation (Caltrans) has developed a vibration manual. According to that manual, the use of large bulldozers, vibratory rollers, and loaded trucks during grading activities could produce vibration. Depending on the level of vibration, the vibration could cause annoyance or damage structures within the project vicinity. Caltrans has developed a screening tool to determine if vibration from construction equipment is substantial enough to impact surrounding uses. Those thresholds are presented in Tables 3.17-1 and 3.17-2.

Table 3.17-1
Vibration Damage Potential Threshold Criteria

Structural Integrety	Maximum PPV (in/sec)	
	Transient	Continuous
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50

Table 3.17-2
Vibration Annoyance Potential Threshold Criteria

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40

Construction equipment, such as vibratory rollers and bulldozers, are repetitive sources of vibration; therefore, the continuous threshold should be used in the vibration analysis for this project. The nearest residences to any part of the project site is approximately 50 feet. As shown in Table 3.17-3, the ground vibration from small bulldozers would be barely perceptible and the ground vibration from loaded trucks would be distinctly perceptible to those residences within 50 feet of the construction activity.

Table 3.17-3
Construction Vibration Impacts

Equipment	PPVref	Distance (feet)	PPV (in/sec)
Small Bulldozer	0.003	50	0.0015
Loaded Truck	0.076	50	0.0354

In order to alleviate the potential annoyance to those residents whose properties abut the Project site, NCPA shall adhere to the following:

- NCPA shall appoint a construction relations officer to act as a community liaison concerning on-site construction activities. Prior to ground disturbing activities NCPA shall notify adjoining property owners of the potential for ground vibration impacts.

3.17.3 Conclusion

Adherence to the above mitigation measure would insure all noise impacts were reduced to a level of less than significant; therefore, no further analysis or mitigation is required.,

3.18 Population and Housing

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

3.18.1 Environmental Setting

The 2010 Census indicated a population of 90,725 and a housing stock of 38,295 units in the City of Redding *(www.usa.com, 03/23/2019).*

3.18.2 Discussion and Mitigation Measures

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

Answer*: No Impact.*

Discussion:

The Project includes the installation of solar photovoltaic systems on Redding Municipal Airport property. It does not include construction of homes, businesses or other infrastructure that would induce unplanned population growth. Therefore, no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project facilities would be constructed on City-controlled land that does not include housing and therefore would not displace people or housing. Consequently, no further analysis or mitigation is required.

3.18.3 Conclusion

No impacts were identified; therefore, no further analysis or mitigation is required.

3.19 Public Services

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

3.19.1 Environmental Setting

Several entities provide public services to residents in the Project area. They include:

- Police Protection: City of Redding Police Department
  Shasta County Sheriff's Department
- Fire Protection: City of Redding Fire Department
- Schools: Grant Elementary School District
  Shasta Union High School District
  Columbia Elementary School District
  Redding Elementary School District
  Enterprise Elementary School District
  Pacheco Unified School District
  Gateway Unified School District

3.19.2 Discussion and Mitigation Measures

Public Services. a.1. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for* ***fire protection services****?*

Answer: No Impact.

Discussion:

Implementation of the Project would not result in the need for additional fire protection services because the Project involves a negligible expansion of operations for which fire protection services would be required. Therefore, there would be no impacts anticipated and no mitigation is required.

Public Services. a.2. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for* ***police protection services****?*

Answer: No Impact.

Discussion:

Implementation of the Project would not result in the need for additional police protection services because the Project involves a negligible expansion of operations for which police services would be required. Additional police protection services (e.g., equipment, sworn officers) would not be required. Therefore, there would be no impacts anticipated and no mitigation is required.

Public Services. a.3. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives* ***for schools****?*

Answer: No Impact.

Discussion:

Implementation of the Project would not result in a need for additional schools because the Project does not include the development of residential uses for which school services would be required. Therefore, there would be no impacts anticipated and no mitigation is required.

Public Services. a.4. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives* ***for parks****?*

Answer: No Impact.

Discussion:

Implementation of the Project would not result in a need for additional park facilities because the Project does not include the development of uses for which public parks would be required. Therefore, there would be no impacts anticipated and no mitigation is required.

Public Services. a.5. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for* ***other public services****?*

Answer: No Impact.

Discussion:

Implementation of the Project would not result in a need for expansions to other public services. Therefore, there would be no impacts anticipated and no mitigation is required.

3.19.3 Conclusion

There were no significant impacts identified; therefore, no further analysis or mitigation is required.

3.20 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	◙
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	◙

3.20.1 Environmental Setting

There are several parks, golf courses and water-oriented recreational facilities in the greater project area.

3.20.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

The proposed Project would not increase the use or demand for park or recreational facilities because the Project does not include the development of uses that would place demands on these facilities, such as residential dwellings or office employment. Therefore, there would be no impacts anticipated and no further analysis or mitigation is required.

Recreation. b. *Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*

Answer: No Impact.

Discussion:

The Project does not include recreational facilities. Therefore, there would be no impacts anticipated and no further analysis or mitigation is required.

3.20.3 Conclusion

No significant impacts were identified; therefore, no further analysis or mitigation is required.

3.21 Transportation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?	☐	☐	☐	◙
b. For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?	☐	☐	☐	◙
c. For a transportation project, would the project conflict with CEQA Guidelines section 15064.3, subdivision (b)(3)?	☐	☐	☐	◙
d. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	◙
e. Result in inadequate emergency access?	☐	☐	☐	◙

3.23.1 Environmental Setting

Regional access to the Project site is via Interstate 5.

The California Department of Transportation's (Caltrans) latest traffic counts (2017) for this highway near the Project area are shown in Table 3.23-1.

Table 3.23-1
Selected Traffic Counts by Caltrans
(2017)

Location	Southbound or Westbound			Northbound or Eastbound		
	Peak Hour	Peak Month	AADT[1]	Peak Hour	Peak Month	AADT[1]
Highway 5						
Churn Creek Road	5,300	65,000	58,000	5,500	69,000	61,000
Cypress Street	5,500	69,000	61,000	6,200	77,000	69,000
Junction Highway 44	6,200	77,000	69,000	5,400	68,000	60,000
Junction Highway 299	5,400	68,000	60,000	4,450	53,000	46,500
Twinview Boulevard	4,450	55,000	46,500	3,950	45,500	39,500
Junction Highway 273	3,950	45,500	39,500	4,500	54,000	47,000

[1] AADT = Average Annual Daily Traffic
Source: Caltrans 2019, www.dot.ca.gov (3/24/2019)

3.23.2 Discussion and Mitigation Measures

Transportation. a. *Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?*

Answer: No Impact.

Discussion:

The Project consists of solar photovoltaic installation at city-owned property at the Redding Municipal Airport. Therefore, the Project would not conflict with a plan, ordinance or policy addressing the circulation system. Consequently, no further analysis or mitigation is required.

Transportation. b. *For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?*

Answer: No Impact.

Discussion:

The Project is not a land use project; therefore, this potential impact category would not apply to the Project. Consequently, there would be no impacts anticipated and no further analysis or mitigation is required.

Transportation. c. *For a transportation project, would the project conflict with CEQA Guidelines section 15064.3, subdivision (b)(3)??*

Answer: No Impact.

Discussion:

The Project is not a transportation project; therefore, this potential impact category would not apply to the Project. Consequently, there would be no impacts anticipated and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

Implementation of the Project would not substantially increase other hazards due to a geometric design feature or incompatible uses. Therefore, there would be no impacts anticipated and no further analysis or mitigation is required.

Transportation. e. *Would the project result in inadequate emergency access?*

Answer: No Impact.

Discussion:

Implementation of the Project would not result in inadequate emergency access. Therefore, there would be no impacts anticipated and no further analysis or mitigation is required.

3.23.3 Conclusion

No impacts were identified; therefore, no further analysis or mitigation is required.

3.24 Tribal Cultural Resources

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

3.24.1 Environmental Setting

AB 52 Coordination

On March 9, 2019, K.S. Dunbar & Associates, Inc., sent a request the Native American Heritage Commission to perform a search of its Sacred Lands file. Subsequently, on March 14, 2019, Gayle Totton, B.S., M.A., Ph.D., Associate Program Analyst, responded in an email to Keith S. Dunbar in which she stated:

> *A record search of the Native American Heritage Commission (NAHC) Sacred Lands file (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.*

Also, on March 14, 2019, K.S. Dunbar & Associates, Inc., sent AB 52 Notifications to the following based on tribal requests to the City of Redding for notification:

The Honorable Jack Potter
Chairperson, Redding Rancheria
2000 Redding Rancheria Road
Redding, CA 96001

The Honorable Wade McMaster
Chairperson, Wintu Tribe of Northern California
P.O. BOX 995
Shasta Lake, CA 96019
(Send a copy of the letter to Ms. Kelli Hayward at the same address)

The Honorable Caleen Sisk
Chief, Winnemem Wintu Tribe
14840 Bear Mountain Road
Redding, CA 96003

To date, none of these tribes responded to the Notification or asked for formal consultation.

During the preparation of its cultural resources assessment for the Project, Anza Resource Consultants performed a records search at the Northeast Information Center at the Department of Anthropology, California State University, Chico. Based on that search, no historic or cultural resources have been previously identified on the Project site. Anza's complete report is contained in Appendix D.

3.24.2 Discussion and Mitigation Measures

Tribal Cultural Resources. 1). *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code §5020.1(k),*

Answer: No Impact.

Discussion:

Based on record searches at the Native American Heritage Commission and the California Historic Resources Information System, field surveys and Native American consultation, there are no tribal cultural resources within the Proposed Project area. Therefore, no further analysis or mitigation is required.

Tribal Cultural Resources. 2). *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code §5023.1(c), and considering the significance of the resource to a California Native American tribe.*

Answer: No Impact.

Discussion:

Based on record searches at the Native American Heritage Commission and the California Historic Resources Information System, field surveys and Native American consultation, there are no tribal cultural resources within the Proposed Project area. Therefore, no further analysis or mitigation is required.

3.24.3 Conclusion

No impacts were identified; therefore, no further analysis or mitigation is required.

3.25 Utilities and Service Systems

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

3.25.1 Environmental Setting

Several entities provide utilities and service systems within the Project area including:

- Water — City of Redding
- Wastewater — City of Redding
- Electricity — Redding Electric Utility
- Natural Gas — Pacific Gas & Electric
- Trash — City of Redding

3.25.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

The Project includes the construction and operation of a solar photovoltaic system at a city-owned site at the Redding Municipal Airport. It will not result in the relocation or construction of new or expanded services. The connections to the local electrical grid are immediately adjacent to the Project site. The local grid has the capacity to accept the additional electricity generated by the Project. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project will require a minimal amount of water to periodically clean the solar panels. However, the City's existing water supplies are adequate to provide this service. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project will not require wastewater service. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project will not generate solid waste. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project would comply with all federal, state and local regulations related to solid waste. Therefore, there would be no impacts and no further analysis or mitigation is required.

3.25.3 Conclusion

No impacts were identified; therefore, no further analysis or mitigation is required.

3.26 Wildfire

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

3.26.1 Environmental Setting

According to the City of Redding's Health and Safety Element, the Planning area is not characterized by substantial areas of wildlands. Data provided by Calfire indicate that the Project area is not within a high fire severity zone or a state fire responsibility area.

3.26.2 Discussion and Mitigation Measures

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

Answer: No Impact.

Discussion:

As discussed in the Transportation section, the Project would not impair an adopted emergency response plan. Therefore, no further analysis or mitigation is required;

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

Answer: No Impact.

Discussion:

The Project site is relatively flat with no risk of wildland fires. Implementation of the Project would not change this. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project would be connected to the local electrical grid. However, the connections would be made immediately adjacent to the Project site and be underground. Therefore, there would be no impacts and no further analysis or mitigation is required.

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

Answer: No Impact.

Discussion:

The Project area is not subject to wildland fires. Therefore, there would be no impacts and no further analysis or mitigation is required.

3.26.3 Conclusion

No impacts were identified; therefore, no further analysis or mitigation is required.

3.27 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	◙	☐	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	◙	☐	☐
c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	◙	☐	☐

3.27.1 Discussion and Mitigation Measures

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

Compliance with the mitigation measures included in Sections 3.5 through 3.26 above will ensure that implementation of the proposed Project does not have the potential to significantly degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

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

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

Compliance with the mitigation measures included in Sections 3.5 through 3.26 above will ensure that implementation of the proposed Project does not have impacts that are individually limited, but cumulatively considerable. NCPA is not aware of any other projects in the area that could result in cumulative construction impacts.

Mandatory Findings of Significance. c. *Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?*

Answer: Less than Significant with Mitigation Incorporated.

Discussion:

Compliance with the mitigation measures included in Sections 3.5 through 3.26 above will ensure that implementation of the proposed Project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

3.27.2 Conclusion

All potential significant impacts associated with the proposed Project can be mitigated to a less than significant level. Therefore, no further environmental review or mitigation is required.

4 Persons and Organizations Consulted

On May 21, 2019, K.S. Dunbar & Associates, Inc., the Northern California Power Agency's environmental consultant, mailed copies of the Notice of Intent to Adopt a Mitigated Negative Declaration with a link to the Northern California Power Agency's website where the Initial Study and Mitigated Negative Declaration could be electronically downloaded to the following:

4.1 Federal Agencies

Jennifer Norris, Field Supervisor
Sacramento Fish & Wildlife Office
U.S. Fish & Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1888

Michael S. Jewell, Chief
Regulatory Division
U.S. Army Corps of Engineers – Sacramento District
1325 J Street, Room 1350
Sacramento, California 95814-2922

Amy Dutschke, Regional Director
Pacific Region Regional Office
Bureau of Indian Affairs
U.S. Department of the Interior
2800 Cottage Way, Room W-2820
Sacramento, California 94825-1885

4.2 State Agencies

Scott Morgan, Director
State Clearinghouse
Governor's Office of Planning and Research
Post Office Box 3044
Sacramento, California 95812-3044

Tina Bartlett, Regional Manager
North Central Region (Region 2)
California Department of Fish and Wildlife
1701 Nimbus Road
Rancho Cordova, California 95670

Clint Snider, Assistant Executive Officer
California Regional Water Quality Control Board, Central Valley Region
364 Knollcrest Drive, Suite 205
Redding, California 96002

Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
1725 23rd Street, Suite 100
Sacramento, California 95816-7100

Wade Crowfoot, Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, California 95814

Christina Snider, Executive Secretary
California Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, California 95691-3830

4.3 County Agencies

John Waldrop
Air Quality District Manager
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, California 96001

Patrick J. Minturn, Director
Department of Public Works
Shasta County
1855 Placer Street
Redding, California 96001

4.4 City Agencies

Brian Schinstock
Redding Electric Utility
3611 Airtech Parkway
Redding, California 96001

Bryan Garrrett, Airport Manager
City of Redding
6751 Woodrum Circle, Suite 200
Redding, California 96002

Amber Kelley, Environmental Compliance Manager
Department of Public Works
City of Redding
Post Office Box 496071
Redding, California 96049-6071

4.5 Interested Entities

Kyle Self, Chairperson
Greenville Rancheria of Maidu Indians
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Appendix A

Mitigated Negative Declaration

Mitigated Negative Declaration
NCPA Solar Project 1 – Redding Airport Site

1. Name of project:	**NCPA Solar Project 1 – Redding Airport Site**
2. Project location – Identify street address and cross streets or attach a map showing the project site (preferably a USGS 7½' or 15' topographical map identified by quadrangle name):	See attachment.
3. Entity or Person undertaking project:	
A. Entity	
(1) Name:	Northern California Power Agency
(2) Address:	651 Commerce Drive, Roseville, California 95678-6420
B. Other (Private)	
(1) Name:	
(2) Address:	

Northern California Power Agency, having reviewed the Initial Study of this proposed project, having reviewed the written comments received prior to the public meeting of the Northern California Power Agency, having reviewed the recommendations of the Northern California Power Agency's Staff, does hereby find and declare that the proposed project will not have a significant effect on the environment. A brief statement of the reasons supporting the Northern California Power Agency's findings are as follows:

The Initial Study concluded that all significant impacts can be reduced to a level of less than significant by implementation of the Mitigation Monitoring and Reporting Program developed for this Project.

The Northern California Power Agency finds that the Mitigated Negative Declaration reflects its independent judgment. A copy of the Initial Study and Mitigation Monitoring and Reporting Program are attached.

The location and custodian of the documents and any other materials which constitute the record of proceedings upon which the Northern California Power Agency based its decision to adopt this Mitigated Negative Declaration are as follows:

Custodian:	Ron Yuen Director of Engineering, Generation Services	Location:	Northern California Power Agency 651 Commerce Driver Roseville, California 95678-6420
Phone:	(916) 781-4258		

Date:	Signature

Overview of the Proposed Project:

The objective of the NCPA Solar Project 1 is to develop a fleet of Photovoltaic (PV) Solar Power Plants throughout participating member service territories construction to be started before the end of 2019. The plants will be managed by the Northern California Power Agency (NCPA) as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial 5 – 7 years of operation, NCPA plans to purchase the plants.

The project will be executed in three phases:

- Phase 1 – Determine member interest and requirements and identify potential sites.
- Phase 2 – Site selection and screening, plan development and selection of a third-party provider to fulfill design, construction and operation through a PPA.
- Phase 3 – Construction and operation per the PPA.

NCPA has now completed Phase 1 and the site selection and screening portion of Phase 2. Burns & McDonnell was retained by NCPA to complete Phase 2 Site Screening, Plan Development, and Procurement services for each site selected by the member agencies. The City of Redding selected a site at its Municipal Airport for development. That site is the subject of this Initial Study and Mitigated Negative Declaration (IS&MND).

Location of the Proposed Project

The Project site consists of two parcels owned by the City of Redding. As shown on Figure 1, they are located directly southeast of the Redding Municipal Airport. The site which totals approximately 100 acres is bordered on the south and east by residential development and on the north and west by open space. Due to constraints, e.g., potential wetland, existing dirt road and transmission lines, approximately 54.7 acres of this site is developable for a solar array. Based on Burns & McDonnnell's April 2019 report, this site would accommodate an 11.4 MW_{dc} facility.

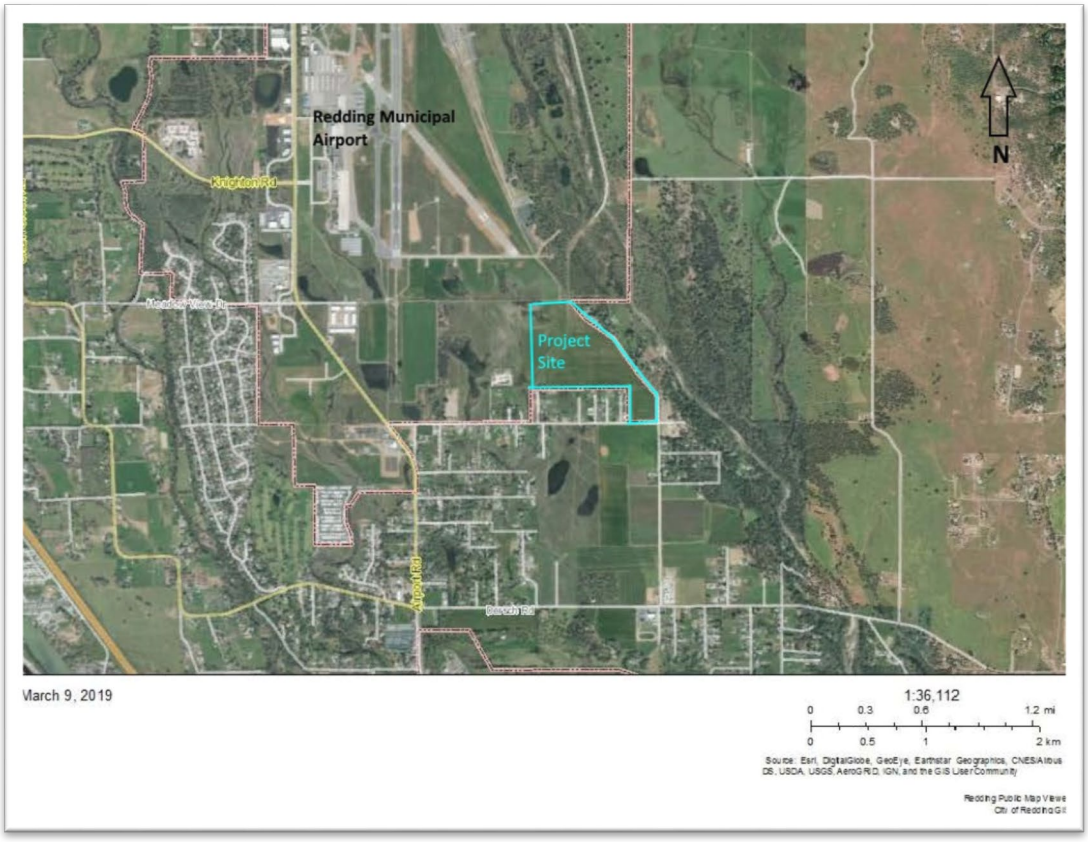

Figure 1 Redding Municipal Airport Project Site Location

Appendix B

Air Quality Modeling Results

NCPA Solar Project 1
Northern California Power Agency
Estimated Construction Emissions from Off-Road Heacy Duty Contstuction Equipment During Solar Equipment Installation

2019 Construction Year

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Reactive Organic Gases (ROG)					
Compressor	0.538	0.00118502	1	106	0.48	8	0.48	
Crane	0.3491	0.00076894	1	399	0.43	8	1.06	
Drill Rig	0.1292	0.00028458	1	291	0.75	8	0.50	
Sweeper	0.2347	0.00051696	1	500	0.68	2	0.35	
Tractors/Backhoes/Loaders	0.3678	0.00139075	1	108	0.55	4	0.33	
Trencher	0.6314	0.00058040	1	63	0.75	4	0.11	
Utility Trucks	0.2635	0.00058040	1	479	0.57	4	0.63	
Water Trucks	0.2635	0.00058040	1	500	0.5	2	0.29	
Totals							3.75	

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Carbon Monoxide (CO)					
Compressor	3.718	0.00818943	1	106	0.48	8	3.33	
Crane	2.96983	0.00654148	1	399	0.43	8	8.98	
Drill Rig	1.03449	0.00227861	1	291	0.75	8	3.98	
Sweeper	1.23013	0.00270954	1	500	0.68	2	1.84	
Tractors/Backhoes/Loaders	3.63777	0.00845104	1	108	0.55	4	2.01	
Trencher	3.83677	0.00326753	1	63	0.75	4	0.62	
Utility Trucks	1.48346	0.00326753	1	479	0.57	4	3.57	
Water Trucks	1.48346	0.00326753	1	500	0.5	2	1.63	
Totals							25.96	

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Oxides of Nitrogen (NO_x)					
Compressor	3.706	0.00816300	1	106	0.48	8	3.32	2.82
Crane	4.29654	0.00946374	1	399	0.43	8	12.99	11.04
Drill Rig	1.55098	0.00341626	1	291	0.75	8	5.96	5.07
Sweeper	2.86598	0.00631273	1	500	0.68	2	4.29	3.65
Tractors/Backhoes/Loaders	3.69287	0.01254423	1	108	0.55	4	2.98	2.53
Trencher	5.69508	0.00587778	1	63	0.75	4	1.11	0.94
Utility Trucks	2.66851	0.00587778	1	479	0.57	4	6.42	5.46
Water Trucks	2.66851	0.00587778	1	500	0.5	2	2.94	2.50
Totals							40.02	34.02

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Oxides of Sulfur (SO_x)					
Compressor	0.007	0.00001542	1	106	0.48	8	0.01	
Crane	0.0049	0.00001079	1	399	0.43	8	0.01	
Drill Rig	0.0048	0.00001057	1	291	0.75	8	0.02	
Sweeper	0.0049	0.00001079	1	500	0.68	2	0.01	
Tractors/Backhoes/Loaders	0.0049	0.00001079	1	108	0.55	4	0.00	
Trencher	0.0049	0.00001079	1	63	0.75	4	0.00	
Utility Trucks	0.0049	0.00001079	1	479	0.57	4	0.01	
Water Trucks	0.0049	0.00001079	1	500	0.5	2	0.01	
Totals							0.07	

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Respirable Particlulate Matter (PM_{10})					
Compressor	0.287	0.00063216	1	106	0.48	8	0.26	0.04
Crane	0.173	0.00038106	1	399	0.43	8	0.52	0.08
Drill Rig	0.0479	0.00010551	1	291	0.75	8	0.18	0.03
Sweeper	0.0989	0.00021784	1	500	0.68	2	0.15	0.02
Tractors/Backhoes/Loaders	0.2465	0.00094846	1	108	0.55	4	0.23	0.03
Trencher	0.4306	0.00021366	1	63	0.75	4	0.04	0.01
Utility Trucks	0.097	0.00021366	1	479	0.57	4	0.23	0.04
Water Trucks	0.097	0.00021366	1	500	0.5	2	0.11	0.02
Totals							1.72	0.26

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Fine Particulate Matter ($PM_{2.5}$)					
Compressor	0.287	0.00063216	1	106	0.48	8	0.26	0.04
Crane	0.1592	0.00035066	1	399	0.43	8	0.48	0.07
Drill Rig	0.0441	0.00009714	1	291	0.75	8	0.17	0.03
Sweeper	0.091	0.00020044	1	500	0.68	2	0.14	0.02
Tractors/Backhoes/Loaders	0.2268	0.00087247	1	108	0.55	4	0.21	0.03
Trencher	0.3961	0.00019670	1	63	0.75	4	0.04	0.01
Utility Trucks	0.0893	0.00019670	1	479	0.57	4	0.21	0.03
Water Trucks	0.0893	0.00019670	1	500	0.5	2	0.10	0.01
Totals							1.60	0.24

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Carbon Dioxide (CO_2)					
Compressor	568.299	1.25175991	1	106	0.48	8	510	
Crane	483.1422	1.06418987	1	399	0.43	8	1,461	
Drill Rig	477.0462	1.05076256	1	291	0.75	8	1,835	
Sweeper	480.5735	1.05853194	1	500	0.68	2	720	
Tractors/Backhoes/Loaders	486.8508	1.06897247	1	108	0.55	4	254	
Trencher	485.3135	1.06912599	1	63	0.75	4	202	
Utility Trucks	485.3832	1.06912599	1	479	0.57	4	1,168	
Water Trucks	485.3832	1.06912599	1	500	0.5	2	535	
Totals							6,683	

Equipment	Emission Factor gr/hp-hr	Emission Factor lb/hp-hr	Number	horsepower	load factor	hours/day	Emissions pounds per day	Mitigated Emissions pounds per day
			Methane (CH_4)					
Compressor	0.101	0.00022247	1	106	0.48	8	0.09	
Crane	0.1529	0.00033678	1	399	0.43	8	0.46	
Drill Rig	0.1505	0.00033150	1	291	0.75	8	0.58	
Sweeper	0.152	0.00033480	1	500	0.68	2	0.23	
Tractors/Backhoes/Loaders	0.1537	0.00033833	1	108	0.55	4	0.08	
Trencher	0.1536	0.00033833	1	63	0.75	4	0.06	
Utility Trucks	0.1536	0.00033833	1	479	0.57	4	0.37	
Water Trucks	0.1536	0.00033833	1	500	0.5	2	0.17	
Totals							2.04	

Appendix C

Biological Resources Technical Report

May 2, 2019

K.S. DUNBAR & ASSOCIATES
Contact: Keith S. Dunbar, P.E., BCEE, Hon.D.WRE, F.ASCE
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Temecula, California 92590

SUBJECT: **Habitat and Jurisdictional Assessment for the Northern California Power Agency Solar Project 1 – Redding Airport Site Located in the City of Redding, Shasta County, California**

Introduction

This report contains the findings of ELMT Consulting's (ELMT) habitat and jurisdictional assessment for the Northern California Power Agency (NCPA) Solar Project 1 – Redding Airport Site (project site or site) located in the City of Redding, Shasta County, California. The habitat and jurisdictional assessment was conducted by biologist Travis J. McGill on March 27, 2019 to document baseline conditions and assess the potential for special-status[1] plant and wildlife species to occur within the project site that could pose a constraint to implementation of the proposed project. Special attention was given to the suitability of the project site to support special-status plant and wildlife species identified by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), and other electronic databases as potentially occurring in the general vicinity of the project site.

Project Location

The project site is generally located east of Interstate 5, south of State Route 299, west of Stillwater Creek, and north of the Sacramento River in the City of Redding, Shasta County, California. The project site is depicted on the Cottonwood quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Section 35 of Township 31 North, Range 4 West. Specifically, the project site is located directly southeast of the Redding Municipal Airport, north of Fig Tree Lane, and west of Loftus Road and Stillwater Creek. Refer to Exhibits 1 thru 3 in Attachment A.

Project Description

Burns & McDonnell estimates the developable area of the project site to be approximately 58.3 acres, or enough land to potentially yield a project size of 9.70 MW (based on an estimate of 6 acres of land needed per MW developed). The proposed technology type for the solar project is horizontal single axis tracker (HSAT).

1 As used in this report, "special-status" refers to plant and wildlife species that are federally and State listed, proposed, or candidates; plant species that have been designated with a California Native Plant Society Rare Plant Rank; wildlife species that are designated by the CDFW as fully protected, species of special concern, or watch list species; and specially protected natural vegetation communities as designated by the CDFW.

Methodology

A literature review and records search were conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition to the literature review, a general habitat assessment or field investigation of the project site was conducted to document existing conditions and assess the potential for special-status biological resources to occur within the project site.

Literature Review

Prior to conducting the field investigation, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project site were determined through a query of the CDFW's QuickView Tool in the Biogeographic Information and Observation System (BIOS), CNDDB Rarefind 5, the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

All available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site were reviewed to understand existing site conditions and note the extent of any disturbances that have occurred within the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources, as well as the following resources:

- Google Earth Pro historic aerial imagery (1998-2018);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey[2];
- USFWS Critical Habitat designations for Threatened and Endangered Species; and
- USFWS Endangered Species Profiles.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the project site. The CNDDB database was used, in conjunction with ArcGIS software, to locate the nearest recorded occurrences of special-status species and determine the distance from the project site.

Habitat Assessment/Field Investigation

Following the literature review, biologist Travis J. McGill inventoried and evaluated the condition of the habitat within the project site on March 27, 2019. Plant communities and land cover types identified on aerial photographs during the literature review were verified by walking meandering transects throughout the project site. In addition, aerial photography was reviewed prior to the site investigation to locate

2 A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.

potential natural corridors and linkages that may support the movement of wildlife through the area. These areas identified on aerial photography were then walked during the field investigation.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Plant species observed during the field investigation were identified by visual characteristics and morphology in the field. Unusual and less familiar plant species were photographed during the field investigation and identified in the laboratory using taxonomical guides. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities and land cover types, and presence of potential jurisdictional drainage and/or wetland features were noted.

Soil Series Assessment

On-site and adjoining soils were researched prior to the field investigation using the USDA NRCS Soil Survey for Shasta County, California. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes that the project site have undergone.

Plant Communities

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with Sawyer, Keeler-Wolf and Evens (2009), delineated on an aerial photograph, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community and/or land cover type in acres.

Plants

Common plant species observed during the field investigation were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less familiar plants were photographed in the field and identified in the laboratory using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

Wildlife

Wildlife species detected during the field investigation by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides used to assist with identification of wildlife species during the survey included The Sibley Field Guide to the Birds of Western North America (Sibley 2003), A Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are well standardized, scientific names are provided immediately following common names in this report (first reference only).

Jurisdictional Drainages and Wetlands

Aerial photography was reviewed prior to conducting a field investigation in order to locate and inspect any potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the United States Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional

Board), or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory jurisdiction. In addition, ELMT reviewed jurisdictional waters information through examining historical aerial photographs to gain an understanding of the impact of land-use on natural drainage patterns in the area. The USFWS National Wetland Inventory (NWI) and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas have been documented on or within the vicinity of the project site.

Existing Site Conditions

The project site is comprised of 100 total acres, located in Shasta County, and is situated directly southeast of the Redding Municipal Airport. The project site is bordered by residential houses to the south and east. The project site is located on a large, flat open field that is bisected by an existing gravel road. The land is currently leased to a local farmer that is using the field to grow hay/alfalfa (*Medicago sativa*). According to NWI data and observations made during the field investigation there appears to be potential wetland areas/ponded areas west of the project site. Additionally, the Federal Emergency Management Agency (FEMA) data indicates the site is located within both the 500-year and 100-year floodplains. The site is planned to be developed in such a way to avoid these suspected wetlands and 100-year floodplain areas.

The proposed project footprint is relatively flat at an approximate elevation of 480 feet above mean sea level with no areas of significant topographic relief. Based on the NRCS USDA Web Soil Survey, the project site is underlain by the following soil units: Red Bluff loam (0 to 3 percent slopes), Churn gravelly loam, deep (0 to 3 percent slopes), and Moda loam (0 to 5 percent slopes). Refer to Exhibit 4, *Soils*, in Attachment A. Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., agricultural activities).

Vegetation

Due to existing land uses, no native plant communities or natural communities of special concern were observed on or adjacent to the project site. The project site primarily consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances (i.e., agricultural activities). These disturbances have eliminated the natural plant communities that once occurred within the boundaries of the project site. Refer to Attachment B, *Site Photographs*, for representative site photographs. No native plant communities will be impacted from implementation of the proposed project.

The project site consists of a land cover type that would be classified as agricultural/disturbed. Refer to Exhibit 5, *Vegetation* in Attachment A. Plant species observed onsite include alfalfa, filaree (*Erodium sp.*), fiddleneck (*Amsinckia sp.*), winter vetch (*Vicia villosa*), short-podded mustard (*Hirschfeldia incana*), wild radish (*Raphanus raphanistrum*), yellow sweet clover (*Mililotus officinalis*), soap plant (*Chlorogalum pomeridianum*), bicolor lupine (*Lupinus bicolor*), pine (*Pinus sp.*), henbit (*Lamium amplexicaule*), yerba santa (*Eriodictyon californicum*), and olive (*Olea europaea*).

Wildlife

Plant communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or

predation. This section provides a discussion of those wildlife species that were observed or are expected to occur within the project site. The discussion is to be used a general reference and is limited by the season, time of day, and weather conditions in which the field investigation was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. The project site provides limited habitat for wildlife species except those adapted to a high degree of anthropogenic disturbances and development.

Fish

No hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish were observed on or within the vicinity of the project site. No fish are expected to occur and are presumed absent from the project site.

Amphibians

No amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibian species were observed on the project site. No amphibians are expected to occur and are presumed absent from the project site.

Reptiles

During the field investigation no reptilian species were observed on the project site. Common reptilian species adapted to a high degree of anthropogenic disturbances that have the potential to occur on the project site include western side-blotched lizard (*Uta stansburiana elegans*), and alligator lizard (*Elgaria multicarinata*). Due to the high level of anthropogenic disturbances on-site no special-status reptilian species are expected to occur within project site.

Birds

The project site provides foraging and cover habitat for bird species adapted to a high degree of human disturbance. Bird species detected during the field investigation included lesser goldfinch (*Spinus psaltria*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), house finch (*Haemorhouse mexicanus*), American crow (*Corvus brachyrhynchos*), killdeer (*Charadrius vociferus*), western meadowlark (*Sturnella neglecta*) and turkey vulture (*Cathartes aura*). Due to routine disturbance associated with agricultural activities, the project site does not provide suitable habitat for special-status bird species known to occur in the area.

Mammals

During the field investigation no mammalian species were observed on the project site. Common mammalian species adapted to a high degree of anthropogenic disturbances that have the potential to occur within the project site include California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*).

Nesting Birds

No active nests or birds displaying nesting behavior were observed onsite during the field survey. The project site and surrounding area provides foraging and nesting habitat for year-round and seasonal avian

residents, as well as migrating songbirds that could occur in the area. In particular, the project site has the potential to provide suitable nesting opportunities for birds that nest on the open ground. Additionally, the trees that border the project site associated with the residential development have the provide suitable nesting opportunities. A pre-construction nesting bird clearance survey should be conducted within three (3) days prior to ground disturbance to ensure no nesting birds will be impacted from site development.

Migratory Corridors and Linkages

Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet still inadequate for others. Wildlife corridors are features that allow for the dispersal, seasonal migration, breeding, and foraging of a variety of wildlife species. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

It should be noted that both Stillwater Creek (located approximately 0.15 mile east of the project site) and the Sacramento River (located approximately 1.4 mile south of the project site) support natural habitats which allow wildlife to move through the region in search of food, shelter, or nesting habitat. The proposed project will be confined to existing heavily disturbed areas partially surrounded by development which have separated the project site from the influences of Stillwater Creek and the Sacramento River. Implementation of the proposed project is not expected to result in temporary and/or permanent impacts to potential wildlife movement opportunities along Stillwater Creek or the Sacramento River during construction and operation activities.

Jurisdictional Areas

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into "waters of the United States" pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and bank under Fish and Wildlife Code Sections 1600 et seq., and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The project site does not support any discernible drainage courses, inundated areas, wetland features, or hydric soils that would be considered jurisdictional by the Corps, Regional Board, or CDFW. Therefore, project activities will not result in impacts to Corps, Regional Board, or CDFW jurisdictional areas and regulatory approvals will not be required.

It should be noted that vacant property west of the project site has been mapped as supporting freshwater emergent wetland habitats and riverine resources by the NWI. This area, outside of the project footprint, has not been subject to agricultural activities and supports undisturbed habitats that are lower in elevation than the project site. During the initial design of the proposed project footprint, these areas west of the project sites were purposely avoided. As a result, no impacts to the freshwater wetland habitats or

riverine resources are expected to occur from the proposed project.

Special-Status Biological Resources

The CNDDB Rarefind 5 and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Cottonwood and Enterprise USGS 7.5-minute quadrangles. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified ten (10) special-status plant species, twenty-one (21) special-status wildlife species, and three (3) special-status plant communities as having potential to occur within the Cottonwood and Enterprise USGS 7.5-minute quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity of the project site are presented in the table provide in Attachment C: *Potentially Occurring Special-Status Biological Resources*.

Special-Status Plants

According to the CNDDB and CNPS, ten (10) special-status plant species have been recorded in the Cottonwood and Enterprise quadrangles (refer to Attachment C). No special-status plant species were observed onsite during the habitat assessment. The project site consists of vacant, undeveloped land that has been subject to agricultural activities and various anthropogenic disturbances. These disturbances have eliminated the natural plant communities that once occurred onsite which has removed suitable habitat for special-status plant species known to occur in the general vicinity of the project site. Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the project site does not provide suitable habitat for any of the special-status plant species known to occur in the area and are presumed to be absent. No focused surveys are recommended.

Special-Status Wildlife

According to the CNDDB, twenty-one (21) special-status wildlife species have been reported in the Cottonwood and Enterprise quadrangles (refer to Attachment C). No special-status wildlife species were observed onsite during the habitat assessment. The project site consists of vacant, undeveloped land that has been subject to agricultural activities and various anthropogenic disturbances. These disturbances have eliminated the natural plant communities that once occurred on-site which has removed suitable habitat for special-status wildlife species known to occur in the general vicinity of the project site.

Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the project site does not provide suitable habitat for any of the special-status wildlife species known to occur in the area and are presumed to be absent. No focused surveys are recommended.

Special-Status Plant Communities

According to the CNDDB, three (3) special-status plant communities have been reported in the Cottonwood and Enterprise USGS 7.5-minute quadrangles: Great Valley Cottonwood Riparian Forest, Great Valley Oak Riparian Forest, and Great Valley Willow Scrub. Based on the results of the field investigation, no special-status plant communities were observed onsite.

Critical Habitat

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS) regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If a there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The project site is not located with federally designated Critical Habitat. Refer to Exhibit 6, *Critical Habitat* in Attachment A. The nearest designated Critical Habitat is located approximately 0.12 mile west of the project site for slender Orcutt grass (*Orcuttia tenuis*) associated with the undeveloped/undisturbed lands west of the project site (Stillwater Plains), and approximately 0.15 mile east of the project site for steelhead (*Oncorhynchus mykiiss*) associated with Stillwater Creek. Therefore, the loss or adverse modification of Critical Habitat from site development will not occur and consultation with the USFWS for impacts to Critical Habitat will not be required for implementation of the proposed project.

Recommendations

Migratory Bird Treaty Act and Fish and Game Code

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, a nesting bird clearance survey should be conducted prior to any ground disturbance or vegetation removal activities that may disrupt the birds during the nesting season.

If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities should stay outside of a no-disturbance buffer. The size of the no-disturbance

buffer (generally 300 feet for migratory and non-migratory song birds and 500 feet raptors and special-status species) will be determined by the wildlife biologist, in coordination with the CDFW, and will depend on the level of noise and/or surrounding disturbances, line of sight between the nest and the construction activity, ambient noise, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area can occur.

Conclusion

Based on the proposed project footprint and existing site conditions discussed in this report, none of the special-status plant or wildlife species known to occur in the general vicinity of the project site are expected to be directly or indirectly impacted from implementation of the proposed project. With completion of the recommendations provided above, no impacts to year-round, seasonal, or special-status avian residents will occur from implementation of the proposed project. Therefore, it was determined that implementation of the project will have "no effect" on federally or State listed species known to occur in the general vicinity of the project site. Additionally, the development of the project will not impact designated Critical Habitats or regional wildlife movement corridors/linkages.

Please do not hesitate to contact Tom McGill at (951) 285-6014 or tmcgill@elmtconsulting.com or Travis McGill at (909) 816-1646 or travismcgill@elmtconsulting.com should you have any questions this report.

Sincerely,

Thomas J. McGill, Ph.D.
Managing Director

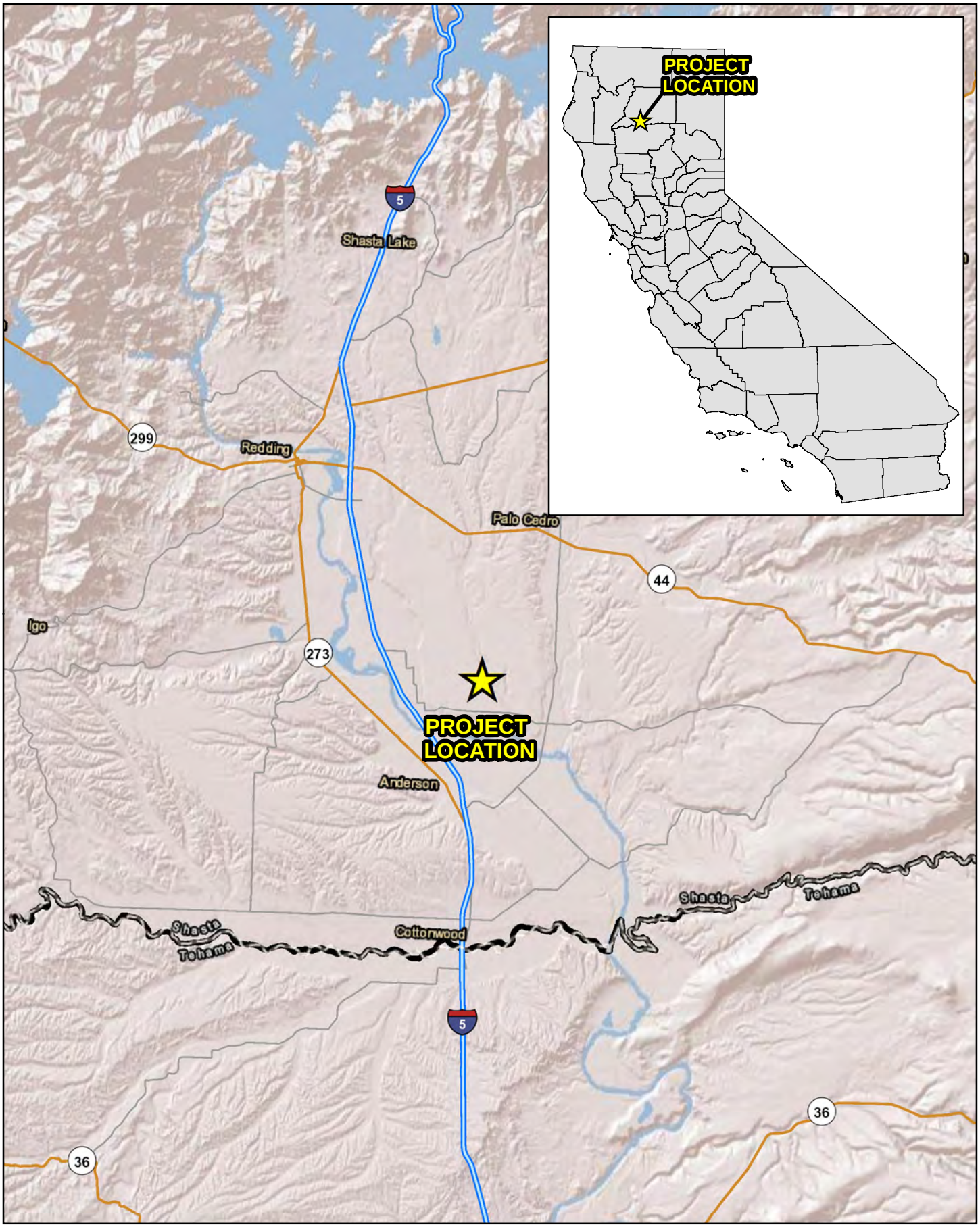
Travis J. McGill
Director

Attachments:

A. *Project Exhibits*
B. *Site Photographs*
C. *Potentially Occurring Special-Status Biological Resources*
D. *Regulations*

Attachment A

Project Exhibits



NCPA SOLAR PROJECT 1 - REDDING AIRPORT SITE
HABITAT AND JURISDICTIONAL ASSESSMENT

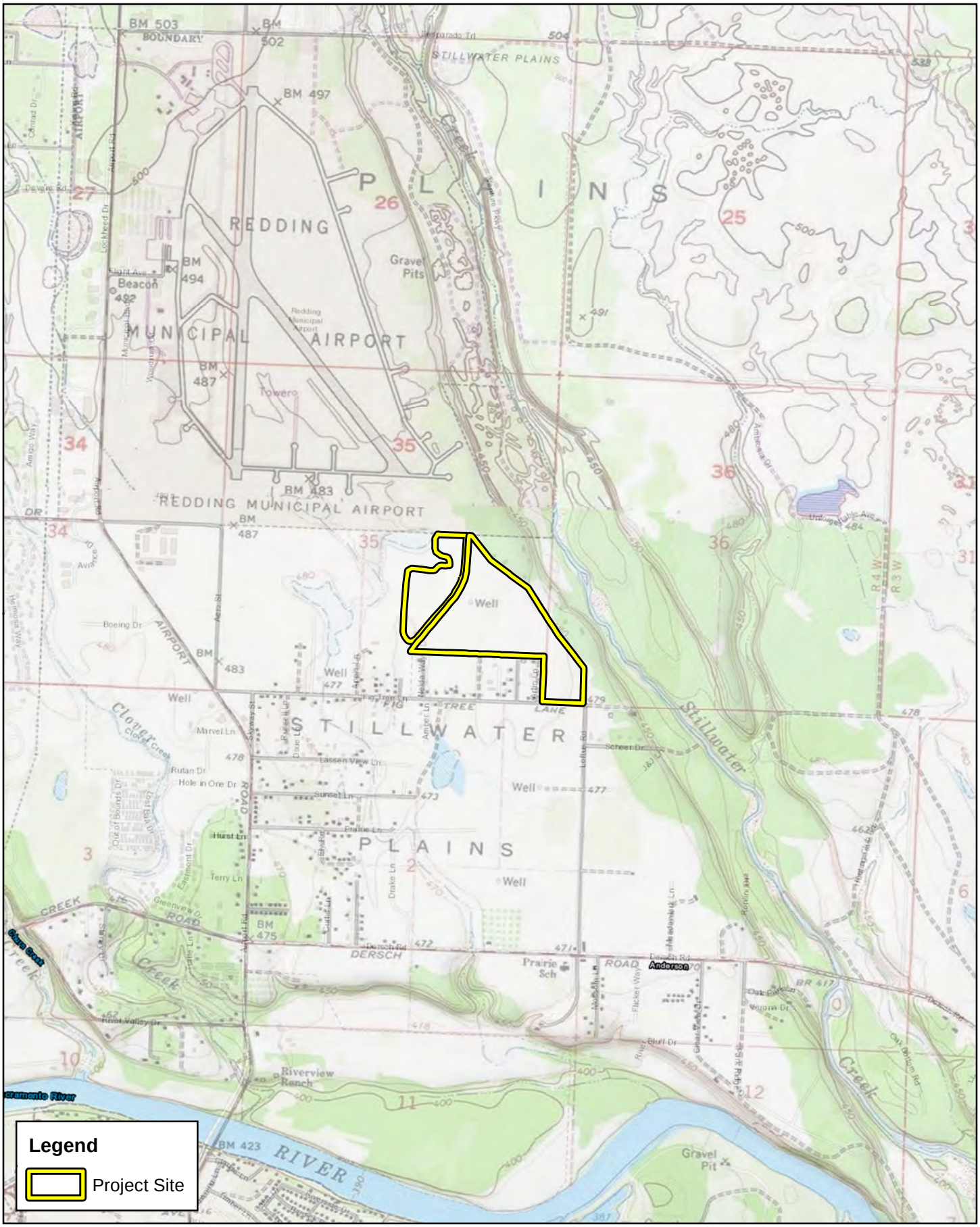
Regional Vicinity

ELMT CONSULTING

0 2.5 5 10 Miles

Source: World Transportation, World Shaded Relief, Shasta County

Exhibit 1



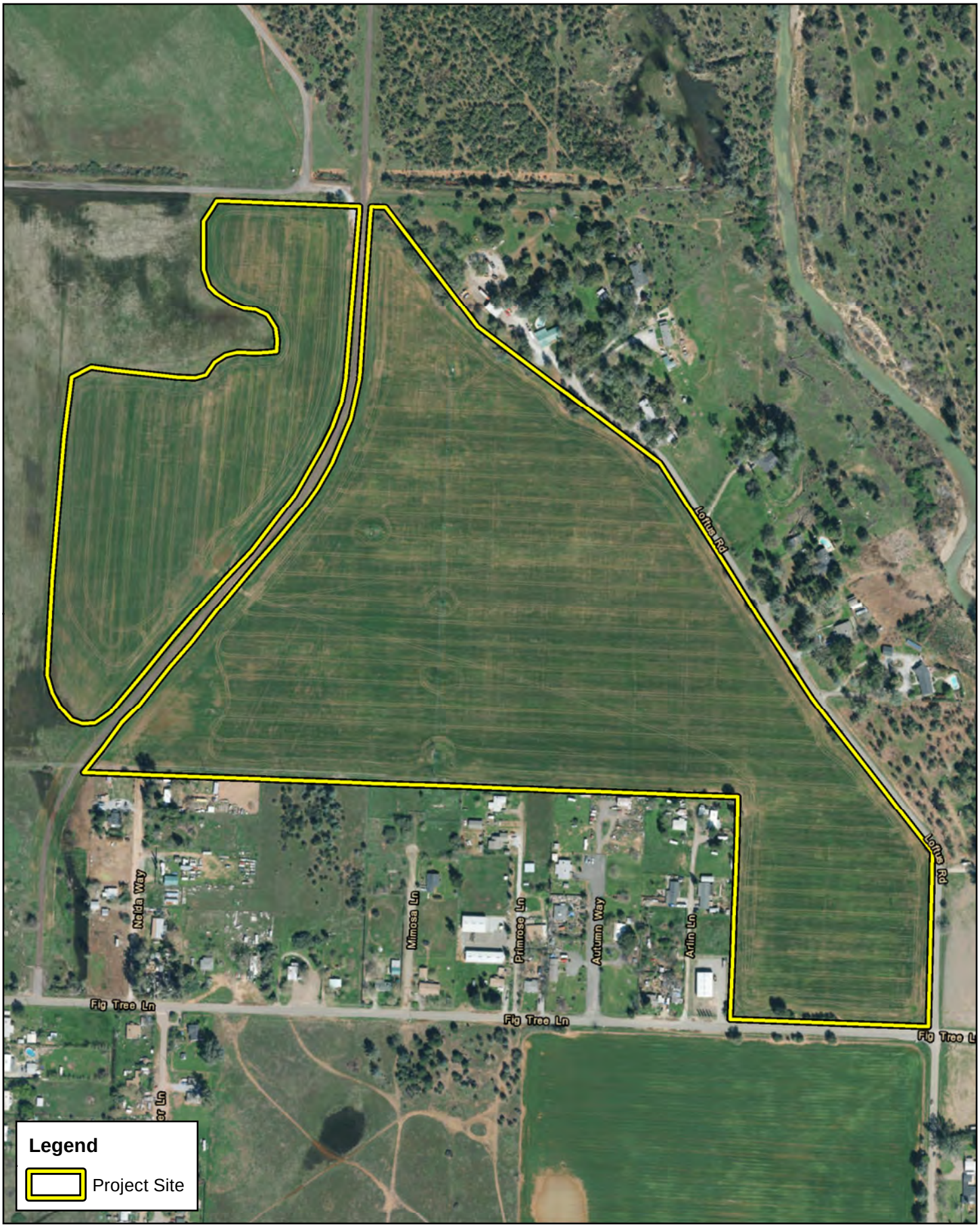
NCPA SOLAR PROJECT 1 - REDDING AIRPORT SITE
HABITAT AND JURISDICTIONAL ASSESSMENT

Site Vicinity

ELMT CONSULTING

Source: USA Topographic Map, Shasta County

Exhibit 2



NCPA SOLAR PROJECT 1 - REDDING AIRPORT SITE
HABITAT AND JURISDICTIONAL ASSESSMENT

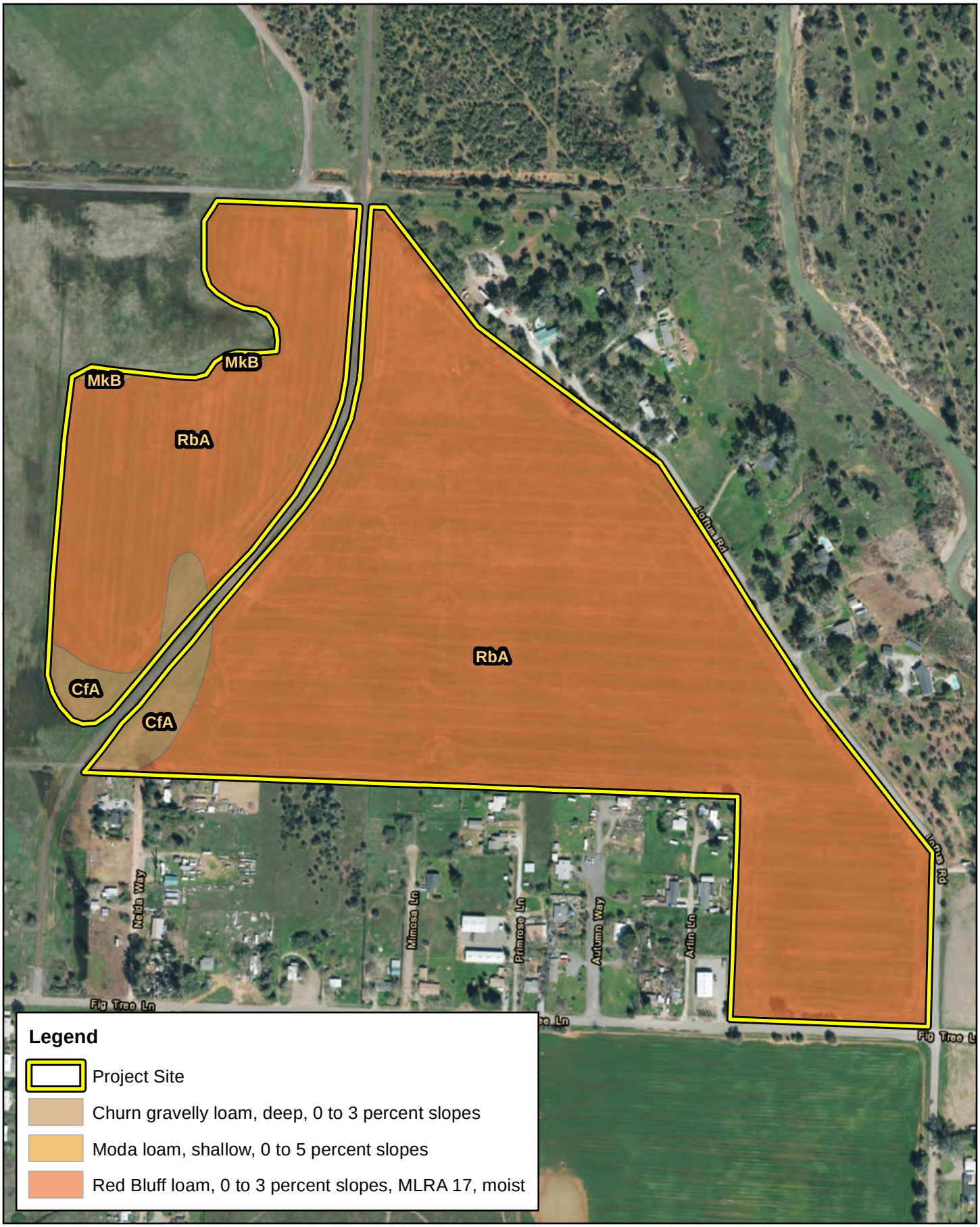
Project Site

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, World Transportation, Shasta County

Exhibit 3



NCPA SOLAR PROJECT 1 - REDDING AIRPORT SITE
HABITAT AND JURISDICTIONAL ASSESSMENT

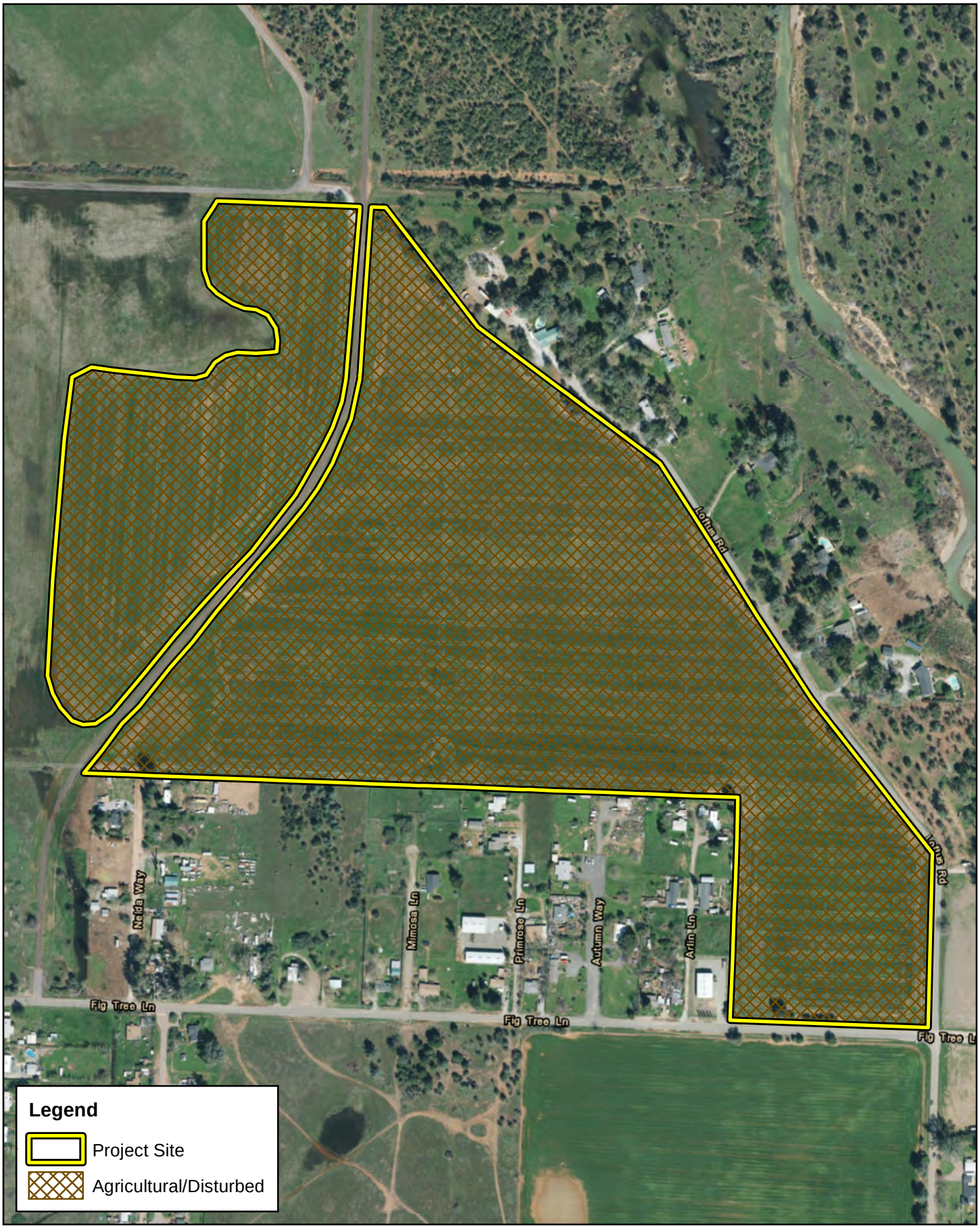
Soils

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, NRCS Soil Survey Geographic Database, World Transportation, Shasta County

Exhibit 4



NCPA SOLAR PROJECT 1 - REDDING AIRPORT SITE
HABITAT AND JURISDICTIONAL ASSESSMENT

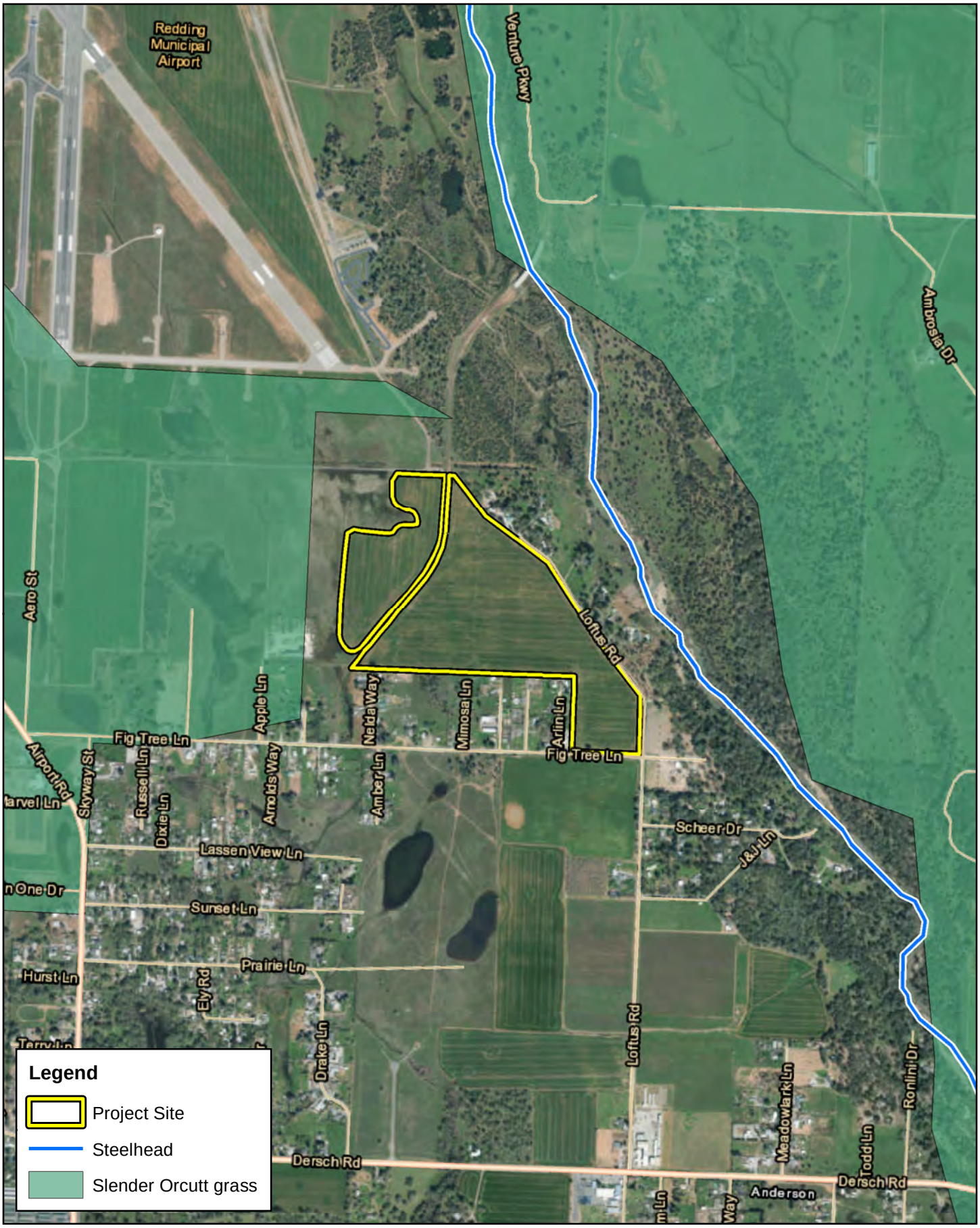
Vegetation

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, World Transportation, Shasta County

Exhibit 5



NCPA SOLAR PROJECT 1 - REDDING AIRPORT SITE
HABITAT AND JURISDICTIONAL ASSESSMENT

Critical Habitat

ELMT CONSULTING

0 500 1,000 2,000 Feet

Source: ESRI Aerial Imagery, World Transportation, USFWS Critical Habitat, Shasta County

Exhibit 6

Attachment B

Site Photographs

Photograph 1: From the southeast corner of the project site looking west along the south westernmost portion of the site.

Photograph 2: From the southwest corner of the project site looking northwest across the site.

Photograph 3: From the middle of the eastern portion of the project site looking west.

Photograph 4: Looking at the northeast portion of the project site.

Photograph 5: From the northern boundary of the project site looking southeast at the eastern portion of the site.

Photograph 6: View of the northern boundary of the eastern portion of the project site.

Photograph 7: From the southeast corner of the western boundary of the project site looking northwest.

Photograph 8: From the eastern boundary of the western portion of the project site looking west.

Photograph 9: Looking west along the northern boundary of the western portion of the project site.

Photograph 10: Looking south across the western portion of the project site.

Attachment C

Potentially Occurring Special-Status Biological Resources

Scientific Name	Common Name	Federal Status	State Status	CDFW Listing	CNPS Rare Plant Rank	Potential to Occur
Special-Status Wildlife Species						
Agelaius tricolor	tricolored blackbird	None	Candidate Endangered	SSC	-	Presumed Absent
Branchinecta lynchi	vernal pool fairy shrimp	Threatened	None	-	-	Presumed Absent
Canis lupus	gray wolf	Endangered	Endangered	-	-	Presumed Absent
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Threatened	None	-	-	Presumed Absent
Emys marmorata	western pond turtle	None	None	SSC	-	Presumed Absent
Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	FP	-	Presumed Absent
Lasionycteris noctivagans	silver-haired bat	None	None	-	-	Presumed Absent
Lasiurus blossevillii	western red bat	None	None	SSC	-	Presumed Absent
Lasiurus cinereus	hoary bat	None	None	-	-	Presumed Absent
Lepidurus packardi	vernal pool tadpole shrimp	Endangered	None	-	-	Presumed Absent
Linderiella occidentalis	California linderiella	None	None	-	-	Presumed Absent
Margaritifera falcata	western pearlshell	None	None	-	-	Presumed Absent
Myotis yumanensis	Yuma myotis	None	None	-	-	Presumed Absent
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	Threatened	None	-	-	Presumed Absent
Oncorhynchus tshawytscha pop. 6	chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	-	-	Presumed Absent
Oncorhynchus tshawytscha pop. 7	chinook salmon - Sacramento River winter-run ESU	Endangered	Endangered	-	-	Presumed Absent
Pandion haliaetus	osprey	None	None	WL	-	Presumed Absent
Rana boylii	foothill yellow-legged frog	None	Candidate Threatened	SSC	-	Presumed Absent
Riparia riparia	bank swallow	None	Threatened	-	-	Presumed Absent
Spea hammondii	western spadefoot	None	None	SSC	-	Presumed Absent
Trilobopsis roperi	Shasta chaparral	None	None	-	-	Presumed Absent
Special-Status Plant Species						
Agrostis hendersonii	Henderson's bent grass	None	None	-	3.2	Presumed Absent
Cryptantha crinita	silky cryptantha	None	None	-	1B.2	Presumed Absent
Eriogonum tripodum	tripod buckwheat	None	None	-	4.2	Presumed Absent
Erythranthe glaucescens	shield-bracted monkeyflower	None	None	-	4.3	Presumed Absent
Juglans hindsii	Northern California black walnut	None	None	-	1B.1	Presumed Absent
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	None	None	-	1B.1	Presumed Absent
Lathyrus sulphureus var. argillaceus	dubious pea	None	None	-	3	Presumed Absent
Legenere limosa	legenere	None	None	-	1B.1	Presumed Absent
Orcuttia tenuis	slender Orcutt grass	Threatened	Endangered	-	1B.1	Presumed Absent
Sidalcea celata	Redding checkerbloom	None	None	-	3	Presumed Absent
Special-Status Plant Community						
Great Valley Cottonwood Riparian Forest		-	-	Sensitive Habitat	-	Absent
Great Valley Valley Oak Riparian Forest		-	-	Sensitive Habitat	-	Absent
Great Valley Willow Scrub		-	-	Sensitive Habitat	-	Absent

U.S. Fish and Wildlife Service (Fed) - Federal
END- Federal Endangered
THR- Federal Threatened

California Department of Fish and Wildlife (CA) - California
END- California Endangered
THR- California Threatened
Candidate- Candidate for listing under the California Endangered Species Act
FP- California Fully Protected
SSC- Species of Special Concern
WL- Watch List

California Native Plant Society (CNPS)
California Rare Plant Rank
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants About Which More Information is Needed – A Review List

CNPS Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California
0.3- Not very threatened in California

Attachment D

Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

As defined within the Federal Endangered Species Act (FESA) of 1973, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, federal law prohibits the "take" of any individuals or habitat of federally listed species. Under Section 9 of the FESA, take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" has been clarified to include "any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." The presence of any federally threatened or endangered species within a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the FESA, the United States Fish and Wildlife Service (USFWS) may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an FESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If the USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) of 1918, as amended in 1972, federal law prohibits the taking of migratory birds or their nests or eggs (16 USC 703; 50 CFR 10, 21). The statute states:

> *Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill...any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions…*

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered "take." This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines "endangered" and "rare" species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, "endangered" species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in "take" of individuals (defined in CESA as; "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at

least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

- 1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere
- 1B- Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A- Plants Presumed Extirpated in California, But More Common Elsewhere
- 2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3- Plants about Which More Information is Needed - A Review List
- 4- Plants of Limited Distribution - A Watch List

Threat Ranks

- .1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of "waters of the U.S.," including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." In order to further define the scope of waters protected under the CWA, the Corps and EPA published the Clean Water Rule on June 29, 2015. Pursuant to the Clean Water Rule, the term "*waters of the United States*" is defined as follows:

(i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

(ii) All interstate waters, including interstate wetlands[1].

(iii) The territorial seas.

(iv) All impoundments of waters otherwise defined as waters of the United States under the definition.

(v) All tributaries[2] of waters identified in paragraphs (i) through (iii) mentioned above.

(vi) All waters adjacent[3] to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

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1 The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

2 The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

3 The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

(vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernals pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) meantioned above.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

The following features are not defined as "waters of the United States" even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(ii) Prior converted cropland.

(iii) The following ditches:

- (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
- (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
- (C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.

(iv) The following features:

- (A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
- (B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
- (C) Artificial reflecting pools or swimming pools created in dry land;
- (D) Small ornamental waters created in dry land;
- (E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
- (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and
- (G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;
(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

Appendix D

Cultural Resources Technical Report

CULTURAL RESOURCES SURVEY
FOR THE
NORTHERN CALIFORNIA POWER AGENCY
SOLAR PROJECT 1 – REDDING AIRPORT PROJECT
SHASTA COUNTY, CALIFORNIA

Prepared for
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USGS Quadrangle
Cottonwood, California
Anza Project No. 19-0006

May 2019

EXECUTIVE SUMMARY

Anza Resource Consultants (Anza) was retained by K.S. Dunbar & Associates, Inc. to conduct a Phase I cultural resources study for the Northern California Power Agency (NCPA) Solar Project 1 – Redding Airport Project in the City of Redding, Shasta County, California. The Redding Airport Project site/area of potential effects is approximately 58 acres separated into three areas to accommodate an existing road and powerline. The project site is directly southeast of the Redding Airport and extends to the intersection of Fig Tree Lane and Loftus Road. The proposed project is subject to the California Environmental Quality Act (CEQA) with NCPA serving as lead agency. Because of its proximity to the airport, the project also requires permitting from the Federal Aviation Administration (FAA) and, therefore, must also comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act.

This study includes definition of the project area of potential effects (APE), a cultural resources records search, Sacred Lands File search and Native American scoping, a pedestrian survey of the project site, and preparation of this technical report in compliance with the cultural resources requirements of CEQA, NEPA, and Section 106.

The cultural resource records search, Native American scoping, and pedestrian survey identified no cultural resources within or adjacent to the project APE. Anza recommends a finding of ***no impact to historical resources*** under CEQA and ***no historic properties affected*** under NEPA. No further cultural resources study is recommended; however, the following standard measures are recommended to avoid potential impacts from the unanticipated discovery of cultural resources during project related ground disturbing activities.

CULTURAL RESOURCES WORKER SENSITIVITY TRAINING

Prior to the start of construction, NCPA shall hold a pre-grading meeting. The Project Archaeologist shall attend the pre-grading meeting with NCPA's Project Administrator, Field Engineering Inspector and any contractors to conduct a Cultural Resources Worker Sensitivity Training for all construction personnel working on the proposed Project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated, and any other appropriate protocols.

UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition

pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant. The Most Likely Descendant shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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APPENDICES

Appendix A. Record Search Summary
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1. INTRODUCTION

Anza Resource Consultants (Anza) was retained by K.S. Dunbar & Associates, Inc. to conduct a Phase I cultural resources study for the Northern California Power Agency (NCPA) Solar Project 1 – Redding Airport Project in the City of Redding, Shasta County, California (Figure 1). The proposed project is subject to the California Environmental Quality Act (CEQA) with NCPA serving as lead agency. Because of its proximity to the Redding Airport, the project also requires permitting from the Federal Aviation Administration (FAA) and, therefore, must also comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (Section 106).

This study includes definition of the project area of potential effects (APE), a cultural resources records search, Sacred Lands File search and Native American scoping, a pedestrian survey of the project site, and preparation of this technical report in compliance with the cultural resources requirements of CEQA, NEPA, and Section 106. This report has been prepared following the *Archaeological Resources Management Report (ARMR): Recommended Content and Format* guidelines (California Office of Historic Preservation 1990).

1.1 PROJECT DESCRIPTION

The objective of the NCPA Solar Project 1 is to develop a fleet of photovoltaic (PV) solar power plants throughout participating member service territories to be completed and placed in service by the end of 2019. The plants will be managed by NCPA as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial five to seven years of operation, NCPA plans to purchase the plants.

The Redding Airport Project proposes to construct a PV solar generation facility of 10.2 Megawatts alternating current or 13.5 Megawatts direct current on land owned by the City of Redding. The Redding Airport Project site is approximately 58 acres total, separated into three areas to accommodate an existing road and powerline, as well as avoid potential impacts to wetlands. The project site is directly southeast of the Redding Airport and extends to the intersection of Fig Tree Lane and Loftus Road, where the project site is accessible (Burns & McDonnell 2019).

1.2 REGULATORY SETTING

As noted above, the project is subject to CEQA with NCPA as lead agency, as well as NEPA and Section 106 because FAA permitting makes the project a federal undertaking. Compliance with the cultural resources requirements of CEQA and Section 106 are described below in Sections 1.2.1 and 1.2.2, respectively.

1.2.1 State

CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, the probability is high 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.

California Assembly Bill 52 of 2014 (AB 52) took effect July 1, 2015, and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project that may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." According to the legislative intent for AB 52, "tribes may have knowledge about land and cultural resources that should be included in the environmental analysis for projects that may have a significant impact on those resources." Section 21074 of AB 52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource. See also PRC 21074 (a)(1)(A)-(B).

1.2.2 Federal

The NCPA Solar Project 1 – Redding Airport Project requires permitting from the FAA and therefore qualifies as a federal undertaking. Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as NEPA. Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of NHPA. Additional relevant federal laws include the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989, among others.

Section 106 of the NHPA (16 United States Code [USC] 470f) requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance of any adversely affected cultural resource is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Significant cultural resources are those resources that are listed in or are eligible for listing in the NRHP per the criteria listed below (36 CFR 60.4). Cultural resources eligible for the NRHP are labeled as historic properties.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:

(a) Are associated with events that have made a significant contribution to the broad patterns of our history; or
(b) Are associated with the lives of persons significant in our past; or
(c) Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) Have yielded, or may be likely to yield, information important in prehistory or history.

1.3 AREA OF POTENTIAL EFFECTS

The area of potential effects (APE) of an undertaking is defined in 36 CFR 800.16(d) as the "geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such property exists." The APE is three-dimensional (depth, length, width) and include all areas directly and indirectly affected by the proposed construction. The current undertaking is located in agricultural fields zoned by the City of Redding as Heavy Industrial. To the north, northwest, and west of the APE is the Redding Municipal Airport; to the northeast along Loftus Road are rural residences behind a row of oak trees, many set back behind additional rows of trees and closer to Stillwater Creek; to the southeast is a large auction house/flea market at the intersection of Loftus Road and Fig Tree Lane; and to the south and southwest are agricultural fields, residences, and some residential properties that appear to have commercial uses, too.

Effects would include construction phase direct effects including ground disturbance to an estimated depth of six to ten feet throughout the APE. The indirect APE includes adjacent or nearby properties that may be indirectly affected (e.g., visual change to historic district, vibrational impacts to unreinforced adobe structures) by the proposed undertaking. The project's direct APE includes footings for the solar PV modules/racks and electrical generation-tie lines. Based on these requirements, the depth of the APE is expected at six to ten feet below the ground surface to account for rack mounts and trenching. Figure 1 displays the project APE for the current undertaking.

1.4 PERSONNEL

Anza Principal and Senior Cultural Resources Specialist Kevin Hunt requested the Sacred Lands File search, conducted the survey, and was the primary author of this report. Principal Investigator Katherine Collins, M.A., Registered Professional Archaeologist (RPA), coauthored this report and served as principal investigator for the study. Ms. Collins meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology (National Park Service 1983). GIS Specialist Spencer Bietz prepared all maps and figures.

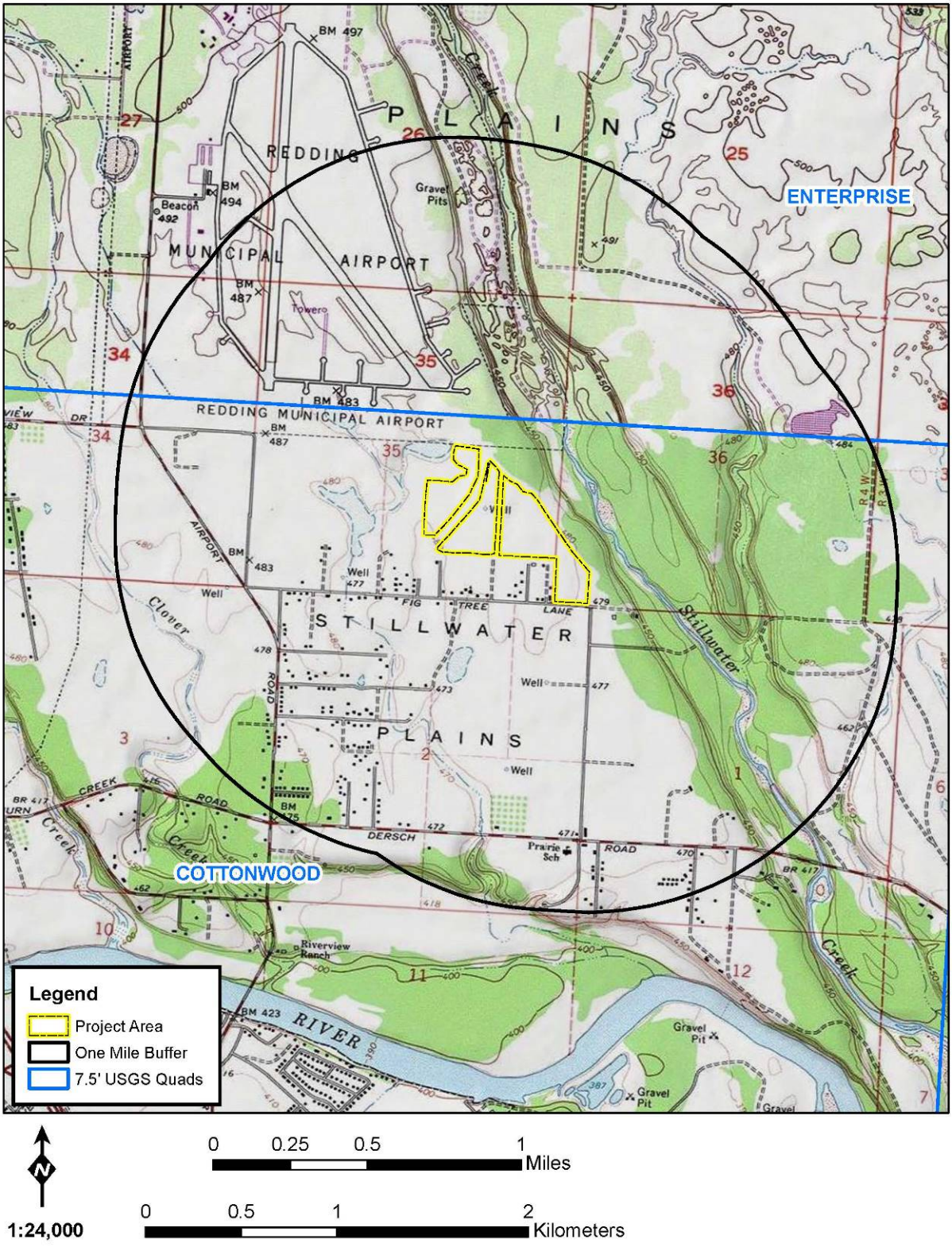

Figure 1. Area of Potential Effects Map

2. ENVIRONMENTAL SETTING

The project site is located in the northern terminus of California's Central Valley. The City of Redding is generally bisected by the Sacramento River running south to north; however, in the vicinity of the project site the river runs from east to west approximately one mile south of the APE. Stillwater Creek is approximately 0.25 mile east of the project APE, which is located in the Stillwater Plains. The project APE is zoned Heavy Industrial and is also part of the "inner approach" to the Redding Airport. The elevation of the APE is approximately 480 feet (146 meters) above mean sea level and the APE is outside the flood zone of Stillwater Creek. The project site is currently vegetated in agricultural grasses with oak trees outside the APE along the east perimeter. Mixed residential/commercial uses are present to the south and east of the APE with the Redding Municipal Airport to the north and west (beyond additional grasses to the west).

Historically, the vicinity of the project APE possessed grassland communities, oak woodlands, and freshwater marshland and riparian vegetation close to Stillwater Creek and the Sacramento River. These environments provided suitable habitat for a variety of water and terrestrial birds, small, medium and large mammals, fish, reptiles and amphibians.

3. CULTURAL SETTING

The NCPA Solar Project 1 – Redding Airport Project APE is in the extreme northern end of the Central Valley. The following sections describe the prehistory and history of the region in broad terms supplemented with local information.

3.1 PREHISTORIC OVERVIEW

The prehistory of the Central Valley is generally divided into three main periods: Paleoindian, Archaic, and Emergent. The Archaic is further divided into the Lower, Middle, and Upper (Fredrickson 1973, 1974). This chronological framework is used by researchers to understand how prehistoric cultures adapted and coped with environmental and social change. Within this framework researchers recognized certain sets of cultural and technological traits that appeared to span long periods of time and covered large areas. These sets of traits were referred to as either "horizons" or "patterns" in the literature. Smaller (local) units of patterns were referred to as "aspects" and "phases" (Fredrickson 1974, Moratto 1984, Rosenthal et al. 2007, Sundahl 1992). Below is a brief overview of prehistoric occupation history in the project vicinity.

The **Paleoindian Period** (11,550 to 8550 cal B.C.) was characterized by the arrival of small, highly mobile hunter-gathered groups. A characteristic element of this period is the use of fluted points to bring down large game animals. Evidence of Paleoindian occupation in the region have been found at Samwel Cave on McCloud River in Shasta County and from Site CA-SIS-342 located in Butte Valley in Siskiyou County, which dates to between 10,500 and 7,500 B.P. (Moratto 1984, Raven 1984, Rosenthal et al. 2007).

During the **Archaic Period** (8550 cal B.C. to A.D. 1000) climatic changes resulted in the drying of pluvial lakes, which caused changes in substance strategies employed by the native populations. During this time a set of cultural traits known as the Borax Lake Pattern emerged in the northern portion of the Central Valley. This pattern appeared during the Middle Archaic (5550 to 550 cal B.C.) and was first documented at the Borax Lake site (CA-LAK-36) in Lake County. Sites associated with this pattern contain manos and metates (grinding stones), along with mortars and pestles in the later phase, indicating that various seeds and/or acorns formed an important part of the diet (Moratto 1984:201). Characteristic tools also include wide-stem, non-stem, and concave base projectile points, which typically were manufactured from local raw material (e.g., obsidian and chert). Archaeological sites associated with the Borax Lake Pattern include a site on the Sacramento River near Redding (CA-SHA-222) and a site at Squaw Creek (CA-SHA-475) (Raven 1984, Sundahl 1992). Nearby Potter Creek Cave, originally thought to include evidence of occupation during the Paleoindian Period, has an approximate date of 2000 B.C. (Raven 1984:446-447).

During the **Emergent Period** (cal A.D. 1000 to Historic) a new set of cultural traits emerged in the Central Valley known as the Augustine Pattern (Moratto 1984, Rosenthal et al. 2007). Within this pattern, a subset of traits known as the Shasta Aspect developed in the northern Central Valley region. The Shasta Aspect, along with the more widespread Augustine Pattern, is noted for an increase in economic and technological diversity. This is evidenced by a number of changes in subsistence, foraging, and land use patterns that begin to reflect the use pattern known from historic period Native American groups in the area. Characteristic artifacts of this period include small Gunther Barbed series arrow points; large, thin, chert bifaces; spindle-shaped and phallic charmstones; and pine nut and spire lopped Olivella beads (Raven 1984:496). Dwellings were typically semisubterranean, and settlements were near streams. The hunter–gatherer subsistence economy included acorn processing in hopper mortars. Some characteristic artifacts, including charmstones, of this period in California's Central Valley were apparently less

prevalent in this region (Moratto 1984:195). The Shasta Aspect is believed to represent the migration of Penutian-speaking Wintu people southward from Oregon into the region (Moratto 1984, Sundahl 1992).

3.2 ETHNOGRAPHIC OVERVIEW

The project site is located within the traditional tribal territory of the Wintu people. This territory occupied the upper Trinity, Sacramento, and McCloud river watersheds on the north, Cottonwood Creek on the south, Cow Creek on the east, and the South Fork of the Trinity River on the west in what are now portions of Trinity, Shasta, Siskiyou, and Tehama Counties (Kroeber 1925, LaPena 1978). The word Wintu generally means "people or person" in the Wintu language, which is a member of the Penutian language family (Mithun 1999).

Traditional Wintu social organization was centered on the family unit while the village served as the larger social, political, and economic organizing unit. Villages typically contained between four and several dozen conical bark houses with a population of 20 to 150 people. Each village was led by a chieftain who was selected among suitable male heirs and was expected to be well informed, a good singer and dancer. Within each village was commonly a semi-subterranean earth lodge which was used a men's gathering place, a sweat lodge, a place for shamanistic initiation, and a sleeping place for single men. A domed brush shelter was used as a menstrual hut for women (LaPena 1978).

Subsistence strategies included hunting, fishing, and the gathering of plant resources. Hunting was conducted individually or communally. Communal hunts were by invitation and lasted about three days. Typical game included deer, brown and grizzly bear, small game such as rabbit, quail, and rodents and grasshoppers. Chinook salmon ran freely in the McCloud and Sacramento rivers and was fished in the spring and fall. Other edible fish included suckers, trout, and whitefish; mussels and clams were also harevested. Plant gathering was performed primarily by women but could also be done by a family or local group. The acorn was a dietary staple that was pounded into a meal, boiled as a soup, or baked into bread. Other plants consumed included Indian potatoes, calochortus, snake's head, clover, miner's lettuce, skunk bush berries, hazelnuts, wild grapes, and sunflower and cotton flower seeds. (LaPena 1978).

The Wintu use a wide variety of tools, implements, and enclosures in order to gather, collect, and process food resources. These included bows and arrows, spears, traps, nets, slings, and blinds for hunting land mammals and birds, and harpoons, hooks, salmon gigs, nets, and weirs for fish. Rafts were used to traverse streams. Woven tools, including seed beaters, burden baskets, rope, and carrying nets, as well as sharpened digging sticks, were used to collect plant resources. For processing food, many tools were used, including bedrock and portable mortars (predominantly basket hopper mortars) and pestles, stone knives, stone scrapers, and a variety of bone tools. The Wintu produced both closework and openwork twined baskets. Tobacco pipes were carved from wood. Water routes up and down the valleys were used during trading sessions and for regular visits to other tribes, mainly with the Shasta, Modoc, and Yana, as well as other Wintu groups. Clam shell money was often the medium of exchange, and the Wintu received *dentalia* shell, acorns, salt, and obsidian in exchange for salmon and clam disc money (LaPena 1978).

Early European contact with the Wintu people included the Jedediah Smith and Peter Ogden expeditions in 1826 and 1827. Later, Oregon fur trappers entered the area and introduced malaria that killed an estimated 75 percent of the indigenous population living in the upper and central Sacramento Valley between 1830 and 1833. The discovery of gold at Sutter's Mill in 1849 further impacted the Wintu as miners and settlers entered their territory in greater numbers. Throughout the 1850s and 1860s, there were repeated clashes, resulting in the death of hundreds of Wintu. As a further consequence of non-native

encroachment into their lands, the Wintu were displaced from their primary hunting grounds and fisheries along the rivers.

The pre-contact Wintu population has been estimated at 14,250, but by 1852 the Wintu population was reduced to approximately 3,500 and was less than a thousand by the turn of the twentieth century (LaPena 1978). Tribal leaders signed the treaty of 1852 that was brought to all the Native American tribes of California, offering large protected regional reservations for forfeiting their title to the rest of the state; however, the U.S. Congress never ratified this treaty. The Clear Creek Reservation was eventually created for the Wintu. In the 1950s the federal government terminated this reservation, and in the 1970s three dams along the Sacramento and McCloud Rivers flooded the former reservation lands. The Wintu people reorganized themselves in the early 1970s, forming the Toyon-Wintu Center Inc. They purchased the Toyo Conservation Camp to provide a new land base, and as of 1971, had an estimated population of 900 (LaPena 1978). Today, there are over 2,500 people of Wintu descent with many living on the Round Valley Reservation in Mendocino County, as well as the Colusa, Cortina, Grindstone Creek, Redding, and Rumsey rancherias in Colusa, Glenn, Shasta and Yolo Counties (White 2019).

3.3 HISTORIC OVERVIEW

The historic period for the state of California generally begins with the establishment of the first Spanish mission and presidio in San Diego in 1769. This marks the beginning of the Spanish period of California history which lasted until 1822. The Spanish period saw the establishment of a permanent European presence in California in the form of 21 missions located along the coast between San Diego and Sonoma, four military presidios located in San Diego, Monterey, San Francisco and Santa Barbara, and three pueblos (towns) that later became the cities of Los Angeles, San Jose and Santa Cruz (Robinson 1948). The Spanish period ended with Mexican independence from the Spanish crown in 1822. The Mexican period of California history saw the seizure of lands once held by the missions through the Mexican Secularization Act of 1833 and the redistribution of those lands to individuals in the form of land grants known as “ranchos” (Robinson 1948). During this period the Mexican government in California issued approximately 700 land grants to Mexican citizens and foreign immigrants (Shumway 1988). The outbreak of war between the United States and Mexico and subsequent signing of the Treaty of Guadalupe Hidalgo in 1848 ended the Mexican period and signaled the beginning of the American period of California history. The early American period is marked by the discovery of gold at Sutter’s Mill in 1848 resulting in a gold rush that saw a massive influx of settlers from other parts of the United States and around the world, greatly impacting California’s native population. In 1869 the transcontinental railroad was completed linking California with the rest of the United States. The gold rush and the establishment of the railroad played major roles in the development of California into a national and worldwide leader in agricultural and industrial production. These early developments also resulted in making California one of the most racially and ethnically diverse states in the Union.

3.3.1 Shasta County

The history of Shasta County begins with its formation as one of the original 27 counties of the state of California in 1850. It originally encompassed what would later become Modoc and Lassen counties, as well as parts of Siskiyou, Plumas, and Tehama counties. The county seat was first placed at Reading’s Ranch (also known as Rancho Buenaventura), relocated to the town of Shasta in 1851, and then ultimately to Redding in 1888, which still serves at the county seat today (Hoover et al 2002). Rancho Buenaventura consisted of a 26,632-acre land grant located along west bank of the Sacramento River and bounded on the north by Salt Creek and Cottonwood Creek on the south. It was granted to Pierson B. Reading in 1844 by the Mexican governor Micheltorena (Shumway 1988). Mr. Reading was a United States citizen from the state of New Jersey who migrated west with the Chiles-Walker party in 1843

(Hoover et al. 2002). The 1848 gold strike at Sutter's Mill created "gold-fever" and Mr. Reading began searching for gold deposits on his land. His labors became successful when he stuck gold at Clear Creek, five miles from its mouth, at what today is known as Reading's Bar (Smith 1991). The Clear Creek gold strike set the stage for waves of migrants from all over the world to enter Shasta County to work the gold deposits. Once the gold rush ended, many stayed and turned their attention to farming, ranching, and logging (Smith 1991). As a result of the gold strike at Clear Creek, Shasta County became the hub of commercial activity for this part of California. All of this activity however, had a devastating effect on the local native population as their environment became polluted from mining and a systematic effort was put into place to dispossess them of their land and move them onto reservations.

3.3.2 City of Redding

The City of Redding was established in 1872 along the west bank of the Sacramento River, within the boundaries of Rancho Buenaventura. In addition to serving as the county seat since 1886, it was the first municipality in Shasta County, and served as a railhead during the construction of the railroad through the Sacramento River gorge to Portland, Oregon. The town was named after Benjamin Bernard Redding, the Southern Pacific Railroad's general land agent and located on a spot previously known as Poverty Flat (Denger 2005). Since its inception, Redding has been a center of trade and transportation in the region (Hoover et al. 2002). Today, Redding is located at the junction of Interstate 5 (old Highway 99) and Highways 299 and 44, between the Cascades and the Trinity Alps. The City of Redding is California's largest city north of Sacramento (Denger 2005).

3.3.3 Redding Municipal Airport

The Redding Municipal Airport is one of two airports in Redding, the other being the considerably smaller Benton Field that was established in 1929 (Denger 2005). Redding Municipal Airport was originally named Redding Airdrome and built in 1942 by the U.S. Army. It was later renamed Redding-Shasta Army Air Field. The original 1,120 acres of land for what would become Redding Municipal Airport was purchased jointly by the City of Redding and Shasta County under a grant from the Work Projects Administration (Denger 2005). An additional 320 acres was later acquired. After the U.S. Army's use of the airfield during World War II, the City of Redding and Shasta County began work to take over the now-surplus facilities. To the north of the airport, the former Redding-Shasta Army Air Field Taxiway C and Bomb Storage Facility became a drag strip starting in the late 1940s (Denger 2005; Redding Dragstrip 2017). The Redding Dragstrip became officially sanctioned by the National Hot Rod Association (NHRA) in 1953 and today is the oldest continually operating NHRA-sanctioned drag strip in existence (Redding Dragstrip 2017).

4. BACKGROUND RESEARCH

4.1 CALIFORNIA HISTORICAL RESOURCE INFORMATION SYSTEM

Anza conducted a search of cultural resource records housed at the California Historical Resources Information System (CHRIS), Northeastern Information Center (NEIC) located at California State University, Chico. The search was conducted by NEIC on April 30, 2019, to identify all previous cultural resources work and previously recorded cultural resources within a one-mile radius of the project APE (Appendix A). The CHRIS search included a review of the NRHP, CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5-, 15-, and 30-minute quadrangle maps and General Land Office plat maps.

4.1.1 Previous Studies

The NEIC records search identified 30 cultural resources studies that were conducted within a one-mile radius of the project APE, one of which (006935) was mapped adjacent to the project site along the transmission line alignment between the central and eastern sections of the APE (Table 1). That study identified no cultural resources within or near the project APE.

Table 1. Previous Cultural Resource Studies within a One-Mile Radius of the Project APE

Report Number	Author	Year	Title	Proximity to Project APE
000066	Clewett, Ed	1978	Archaeological Investigation of the Proposed Redding Airport Expansion: New Terminal Building, Parking Ramp, and Industrial Park	Outside
000827	Minor, Rick, Underwood, Jackson, Apple, Rebecca, Beckham, Stephen Dow, and Woods, Clyde	1987	Technical Report: Cultural Resources Survey for the US Sprint Fiber Optic Cable Project - Oroville, California to Eugene, Oregon	Outside
001588	Clewett, Ed	1996	Archaeological Investigation of the Proposed Redding Airport Expansion: New Terminal Building, Parking Ramp, and Industrial Park	Outside
002349	Minor, Rick, Underwood, Jackson, Apple, Rebecca, Beckham, Stephen Dow, and Woods, Clyde	2005	Technical Report: Cultural Resources Survey for the US Sprint Fiber Optic Cable Project - Oroville, California to Eugene, Oregon	Outside
003110	Clewett, Ed	2014	Archaeological Investigation of the Proposed Redding Airport Expansion: New Terminal Building, Parking Ramp, and Industrial Park	Outside

Report Number	Author	Year	Title	Proximity to Project APE
003871	Minor, Rick, Underwood, Jackson, Apple, Rebecca, Beckham, Stephen Dow, and Woods, Clyde	2023	Technical Report: Cultural Resources Survey for the US Sprint Fiber Optic Cable Project - Oroville, California to Eugene, Oregon	Outside
004632	Clewett, Ed	2032	Archaeological Investigation of the Proposed Redding Airport Expansion: New Terminal Building, Parking Ramp, and Industrial Park	Outside
001497	Jensen, Peter M.	1997	Archaeological Inventory Survey, c. 5-Acre Hawes River Acres, near Stillwater Creek, Shasta County, Califoria	Outside
004442	Garr, Nancy	1989	VMP Rx 2-004SHU Hawes Vegetation Management Project Archaeological Review	Outside
004442	Jenkins, Richard C.	2002	CDF Project Review Report for Archaeological and Historical Resources for the Hawes VMP	Outside
004658	Nelson, Wendy J., Maureen Carpenter, and Kimberley L. Holanda	2000	Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project: Segment WPO4: Sacramento to Redding	Outside
006272	Vaughan, Trudy	2005	Archaeological Reconnaissance for the Proposed Webber Parcel Split at 20990 Dersch Road, Anderson, Shasta County, California	Outside
006935	Corey, Christopher and Nancy E. Sikes	2006	Cultural Resources Survey for the Proposed Stillwater Business Park 115/kV Transmission Line Project, City of Redding, Shasta County, California	Adjacent between central and east sections of APE
006935	Martinez, Amanda	2008	Supplement Report on Cultural Resources Survey for the Proposed Stillwater Business Park 115/kV Transmission Line Project, City of Redding, Shasta County, California	Outside
007225	Manning, James P.	1980	Archaeological Reconnaissance of the Rhyne-Duggan Specific Plan, Shasta County, California	Outside
007226	Jensen, Peter M.	1984	Archaeological Reconnaissance of the Preferred Alternate Site, City of Redding's, Propsoed Stillwater Sewage Treatment Plant	Outside
007226	Vaughan, Trudy	1990	Archaeological Monitoring at the Stillwater Regional Wastewater Treatment Plant, Shasta County, California	Outside
007227	Jensen, Peter M.	1985	Archaeological Reconnaissance of Proposed Intersection Improvement on Airport Road and Dersch, Shasta County, California	Outside
007229	Jensen, Peter M.	1991	Archaeological Inventory Survey of K.O.H. Atlas' Proposed Subdivision of c.24 Acres Located South of the Redding Municipal Airport, Adjacent to Clover Creek, Shasta County, California	Outside

Report Number	Author	Year	Title	Proximity to Project APE
007230	Vaughan, Trudy and Dan McGann	1993	Archaeological Reconnaissance for South Airport 115kv Project, Redding, Shasta County, California	Outside
007289	Darcangelo, Michael	2006	Cultural Resources Inventory for the Wetlands Reserve Program of 160 Acres at Stephenson Ranch, West of the Town of Redding, Shasta County, California	Outside
008212	Dotta, James	1981	Archaeological Reconnaissance of the Proposed Hawes Ranch Subdivision, Shasta County, California	Outside
008236	Jenkins, Richard	1992	5200 Vegetation Management Airport Vegetation Management Project Archaeological Review	Outside
008236	Jenkins, Richard	1992	5200 Vegetation Management Airport Vegetation Management Project (Phase 2)	Outside
008239	Jensen, Peter M.	1994	Archaeological Inventory Survey Proposed Expansion of the Palo Cedro Sewer Treatment Facility, c. 200 Acres near the Redding Airport and Stillwater Creek, Shasta County, California	Outside
008743	Tuttle, Tiffany	2007	Cultural Resources Inventory Survey For Proposed Commercial and Residential Development, +/- Acres, Airport Road and Marel Lane, City of Redding, Shasta County, California	Outside
008745	Jensen, Sean M.	2007	Archaeological Survey, c.25-acre Anderson Development Project, Shasta County, California	Outside
012349	Meyer, Jack	2013	A Geoarchaeological Overview and Assessment of Northeast California, Cultural Resources Inventory of Caltrans District 2 Rural Conventional Highways: Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama, and Trinity Counties	Outside
012892	Cutright-Smith, Elisabeth	2014	Cultural Resources Inventory Report for the Tucker Oaks North Residential Development Project Shasta County, California	Outside
013880	Jensen, Sean	2017	An Archaeological Inventory Survey for the Redding Airport Upgrade Project, Shasta County, California	Outside

Source: NEIC, April 2019

4.1.2 Previously Recorded Resources

A single prehistoric sparse lithic artifact scatter (P-45-001768) was recorded within one mile of the project APE (Table 2). This site was mapped approximately 0.75-mile northeast of the project APE, across Stillwater Creek. NEIC provided additional information regarding historic period features loosely mapped between 0.25-mile and one mile north of the project APE; however, these features were not formally mapped, recorded, or evaluated for CRHR or NRHP listing. No resources were identified in the historic properties directory within one-mile of the project APE.

Table 2. Previously Recorded Cultural Resources within One Mile of the Project APE

Primary Number	Trinomial	Description	NRHP/CRHR Eligibility Status	Recorded Year (By Whom)	Relationship to Project APE
P-45-001768	CA-SHA-001768	Prehistoric sparse lithic artifact scatter	Insufficient information	1989 (Garr); 2002 (Richard Jenkins)	Approximately 0.75 mile northeast

Source: NEIC, April 2019

4.2 NATIVE AMERICAN SCOPING

K.S. Dunbar & Associates, Inc. requested a review of the Sacred Lands File (SLF) by the Native American Heritage Commission. The NAHC sent a response on March 14, 2019, stating that a search of the SLF was completed with negative results (i.e., no sacred lands or resources important to Native Americans identified in the search; Appendix B). The NAHC provided a list of nine Native American contacts that may have knowledge regarding Native American cultural resources within or near the project site.

K.S. Dunbar & Associates, Inc. mailed letters and sent emails dated March 15, 2019, to the seven Native American contacts describing the project and asking if they had knowledge regarding cultural resources of Native American origin within or near the project site (Appendix B). As of April 30, 2019, no responses have been received.

5. FIELDWORK

5.1 SURVEY METHODS

Anza Principal and Senior Cultural Resources Specialist Kevin Hunt conducted a pedestrian survey of the project APE on April 23 and 24, 2019. Mr. Hunt surveyed the project site using transects spaced 10 meters apart and generally oriented north-south, though also following the project boundaries. The entire approximately 58-acre project site was surveyed. He also inspected the indirect APE (i.e., properties adjacent to the direct APE or in immediate line of sight).

Mr. Hunt examined all exposed ground surface for artifacts (e.g., flaked stone tools and tool-manufacture debris, ground stone tools, ceramic sherds, fire-affected rock), ecofacts (marine shell, bone), soil discoloration that could indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramic sherds, cut bone). Ground disturbances such as burrows and drainages were visually inspected. Photographs documenting the project site and survey are maintained by Anza in cloud storage online.

5.2 RESULTS

The project site comprises agricultural fields densely vegetated with grasses averaging between approximately 0.5 and one meter (20-40 inches) tall. As a result, ground visibility was extremely poor (approximately zero to 10 percent) throughout the project APE with rare bare patches providing the best visibility (Photographs 1-4). The eastern portion of the APE had oak trees outside the APE on the east and north boundaries. The western boundary of the western portion of the APE followed the edge of an apparent seasonal wetland. The survey was negative; that is, no cultural (i.e., archaeological, historic built, or tribal cultural) resources were identified within the project APE.

The indirect APE does not possess any historic properties or districts (Section 4.1.2). The Redding Municipal Airport includes structures and features more than 50 years old; however, the airport has been repeatedly and regularly improved and upgraded and does not possess integrity from its historic period use. None of the residential development to the south and east existed prior to 1965 and most are less than 45 years old (Burns & McDonnell 2019:5-1; Metsker Maps 1959). The area is a mix of residential, commercial, and industrial (airport) uses with predominantly modern buildings. If historic properties were identified in the vicinity of the APE, there is no existing integrity of historic setting and construction of the NCPA Solar Project 1 – Redding Airport Project would not cause indirect effect to such resources.

1. 

Photograph 1. Overview from southeast corner of APE, facing northwest.

Photograph 2. View of transmission line separating central and east portions of APE, facing south.

Photograph 3. View of western portion of APE, facing northwest.

Photograph 4. Detail of survey transect, facing north.

6. MANAGEMENT RECOMMENDATIONS

The cultural resource records search, Native American scoping, and pedestrian survey identified no cultural resources within or adjacent to the project APE. The cultural resource records search, Native American scoping, and pedestrian survey identified no cultural resources within or adjacent to the project site. Anza recommends a finding of ***no impact to historical resources*** under CEQA and ***no historic properties affected*** under NEPA. No further cultural resources study is recommended; however, the following standard measures are recommended to avoid potential impacts from the unanticipated discovery of cultural resources during project related ground disturbing activities.

6.1 CULTURAL RESOURCES WORKER SENSITIVITY TRAINING

Prior to the start of construction, NCPA shall hold a pre-grading meeting. The Project Archaeologist shall attend the pre-grading meeting with NCPA's Project Administrator, Field Engineering Inspector and any contractors to conduct a Cultural Resources Worker Sensitivity Training for all construction personnel working on the proposed project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated, and any other appropriate protocols.

6.2 UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

6.3 UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant. The Most Likely Descendant shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

7. REFERENCES

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Appendix A:
Records Search Summary

Northeast Center of the California Historical Resources Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA

SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

123 West 6th Street, Suite 100
Chico CA 95928
Phone (530) 898-6256
neinfocntr@csuchico.edu

April 30, 2019

Anza Resource Consultants
603 Seagaze Drive, #1018
Oceanside, CA 92054
Attn.: Mr. Kevin Hunt

I.C. File # D19-59
Priority Records Search

RE: NCPA Redding Airport Solar PV Project
T31N, R4W, Sections 35 & 36 MDBM
USGS Cottonwood 7.5' and Anderson (1947) 15' quads
67.53 acres (Shasta County)

Dear Mr. Hunt,

In response to your request, a priority records search for the project cited above was conducted by examining the official maps and records for archaeological sites and surveys in Shasta County. Please note, the search includes a 1-mile radius surrounding the project area, per your request.

RESULTS:

Prehistoric Resources: According to our records, no sites of this type have been recorded within or adjacent to the project area. However, one site of this type has been recorded in the 1-mile project vicinity. Site CA-SHA-1768 consists of a lithic scatter. This site location is plotted on the enclosed NEIC-generated map. A Resource List, Resource Details, a spreadsheet, and copy of the site record are included. The project is located in a region utilized by the *Stillwater* subgroup of Wintu populations. Unrecorded prehistoric cultural resources may be located within the project area.

Historic *Resources:* According to our records, no sites of this type have been recorded within the project area or 1-mile project vicinity. However, one site of this type has been informally documented (IDR) in the 1-mile project vicinity. IDR-297A consists of earthen structure foundations and a 1940s Dodge pickup related to a World War II era air base. Please see the enclosed documentation for more information. This IDR location has been plotted on the enclosed NEIC-generated map. Unrecorded historic cultural resources may be located in the project area.

The USGS Anderson (1947) 15' quad map indicates that the San Buenaventura land grant, Stillwater Plains, and a road are located within the project area, while Stillwater Creek, Clover Creek, reservoirs, a transmission line, structures, and roads are located in the general project vicinity.

A copy of the GLO plat map (1855) depicting a road within the project area is enclosed. Additionally, a copy of the historic Red Bluff (1890) quad map depicting Stillwater Creek and roads in the project vicinity is also enclosed. Finally, a copy of the Oregon-California Trails Association (OCTA) map depicting the Nobles Emigrant Trail within the project area is also enclosed. The Nobles Pass Route (also known as the Nobles Emigrant Trail) is listed on the California Inventory of Historic Resources (1976) and is a California State Landmark.

Previous Archaeological Investigations: According to our records, a portion of the project area and portions of the 1-mile project vicinity have been previously surveyed for cultural resources. Please see the enclosed spreadsheet for more information. Survey locations are plotted on the enclosed NEIC-generated map. A Report List and copy of the study located within the project area ONLY are included, per your request.

Literature Search: The official records and maps for archaeological sites and surveys in Shasta County were reviewed. Also reviewed: **National Register of Historic Places - Listed properties and Determined Eligible Properties** (2012); **California Register of Historical Resources** (2012); **California Points of Historical Interest** (2012); **California Inventory of Historic Resources** (1976); **California Historical Landmarks** (2012); **Directory of Properties in the Historic Property Data File for Shasta County** (2012); and **Handbook of North American Indians, Vol. 8, California** (1978).

RECOMMENDATIONS:

We recommend that you contact the appropriate local Native American representatives for information regarding traditional cultural properties that may be located within project boundaries for which we have no records.

Appendix B:
Native American Scoping

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

March 14, 2019

Keith Dunbar
K. S. Dunbar & Associates, Inc.

VIA Email to: ksdpe67@gmail.com

RE: NCPA Solar Project 1 – Redding Airport, City of Redding; Enterprise and Cottonwood USGS Quadrangles, Shasta County, California.

Dear Mr. Dunbar:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, B.S., M.A., Ph.D.
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Shasta County
3/14/2019

Greenville Rancheria of Maidu Indians
Kyle Self, Chairperson
P.O. Box 279 — Maidu
Greenville, CA, 95947
Phone: (530) 284 - 7990
Fax: (530) 284-6612
kself@greenvillerancheria.com

Nor-Rel-Muk Nation
John Hayward, Chairperson
P.O. Box 1967 — Wintu
Weaverville, CA, 96093
Phone: (530) 410 - 1125
norermuk@com-pair.net

Paskenta Band of Nomlaki Indians
Andrew Alejandre, Chairperson
P.O. Box 709 — Nomlaki
Corning, CA, 96021 — Wintun
Phone: (530) 528 - 3538
Fax: (530) 528-3595
office@paskenta.org

Quartz Valley Indian Community
Frieda Bennett, Chairperson
13601 Quartz Valley Road — Karuk
Fort Jones, CA, 96032 — Klamath
Phone: (530) 468 - 5907 — Shasta
Fax: (530) 468-5908
frieda.bennett@qvir-nsn.gov

Redding Rancheria
Jack Potter, Chairperson
2000 Redding Rancheria Road — Pit River
Redding, CA, 96001 — Wintu
Phone: (530) 225 - 8979 — Yana
Fax: (530) 241-1879
melodieh@redding-rancheria.com

Shasta Indian Nation
Sami Jo Difuntorum, Cultural Resource Coordinator
P.O. Box 634 — Shasta
Newport, OR, 97365-0045
Phone: (530) 643 - 2463

Shasta Nation
Roy Hall, Chairperson
10808 Quartz Valley Road — Shasta
Fort Jones, CA, 96032
Phone: (530) 468 - 2314

Winnemem Wintu Tribe
Caleen Sisk, Chief
14840 Bear Mountain Road — Wintu
Redding, CA, 96003
winnememwintutribe@gmail.com

Wintu Tribe of Northern California
Wade McMaster, Chairperson
P.O. Box 995 — Wintu
Shasta Lake, CA, 96019
Phone: (530) 605 - 1726
wintu.tribe@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed NCPA Solar Project 1 - Redding Airport, Shasta County.

Appendix E

AB 52 Consultation

Northern California Power Agency
651 Commerce Drive
Roseville, California 95678

AB 52 Tribal Consultation Notification

Date:	March 14, 2019
To:	Caleen Sisk, Chief
Tribe:	Winnemem Wintu Tribe
Subject:	Notification for Tribal Consultation
Project Name:	NCPA Solar Project 1 – Redding Airport
Lead Agency:	Northern California Power Agency

Introduction:

The Northern California Power Agency (NCPA) is proposing the NCPA Solar Project 1 – Redding Airport Project which may be located in a geographical area that is traditionally and culturally affiliated with the Winnemem Wintu Tribe.

Request for Consultation:

California law under Assembly Bill 52 (Public Resources Code §21080.3.1) now allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. This request must be in writing to NCPA and identify a lead contact person. NCPA will begin the consultation process within 30 days of receiving the tribes request for consultation. The consultation may include discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

The consultation does not limit the ability of the tribe to submit information to NCPA regarding the significance of the tribal resources, the significance of the project's impact on tribal cultural resources, or any measures the tribe feels are appropriate to mitigate the potential impacts. If you wish to informally submit information, written comments may be sent to:

Keith S. Dunbar, P.E., BCEE, Hon.D.WRE., F. ASCE
K.S. Dunbar & Associates, Inc.
Environmental Engineering
45375 Vista Del Mar
Temecula, California 92590-4314
(951) 699-2082
E-Mail: ksddpe67@gmail.com

Confidential information transmitted electronically cannot be ensured. NCPA recommends that transmittal of confidential information, such as the specific location of a cultural resource, is done by formal letter, in person, or over the telephone, the tribes request to consult on the above-named project must be received no later than 30 days from the date of this notification.

Overview of the Proposed Project

The objective of the NCPA Solar Project 1 is to develop a fleet of Photovoltaic (PV) Solar Power Plants throughout participating member service territories to be completed and placed in service by the end of 2019. The plants will be managed by the Northern California Power Agency (NCPA) as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial 5 – 7 years of operation, NCPA plans to purchase the plants.

The project will be executed in three phases:

- Phase 1 – Determine member interest and requirements and identify potential sites.
- Phase 2 – Site selection and screening, plan development and selection of a third-party provider to fulfill design, construction and operation through a PPA.
- Phase 3 – Construction and operation per the PPA.

NCPA has now completed Phase 1 and the site selection and screening portion of Phase 2. Burns & McDonnell was retained by NCPA to complete Phase 2 Site Screening, Plan Development, and Procurement services for each site selected by the member agencies. The City of Redding selected a site at the Redding Municipal Airport. That site is the subject of this Notification.

The Project site consists of two parcels owned by the City of Redding. As shown on Figure 1, they are located directly southeast of the Redding Municipal Airport. The site which totals approximately 100 acres is bordered on the south and east by residential development and on the north and west by open space. Due to constraints, e.g., potential wetland, existing dirt road and transmission lines, approximately 58.3 acres of this site is developable for a solar array. Based on an estimate of 6 acres of land needed per MW, this site would accommodate a 9.7 MW facility.

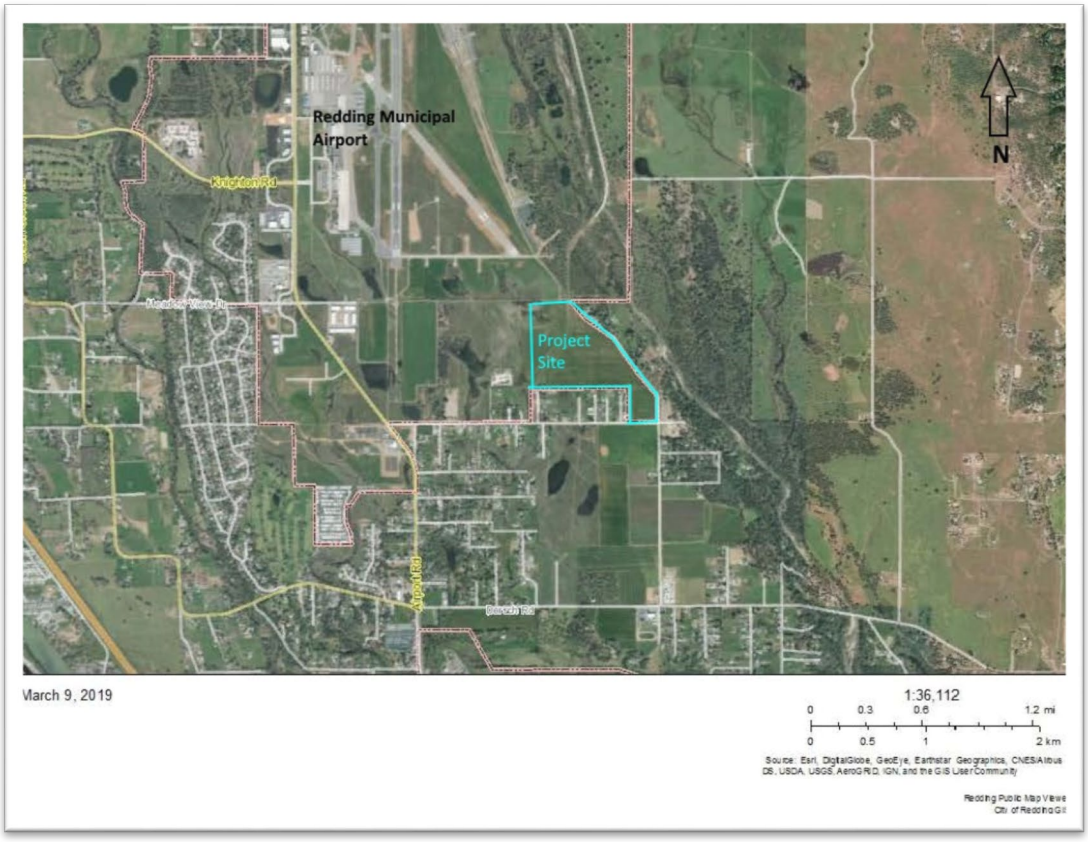

Figure 1 Redding Municipal Airport Project Site

Northern California Power Agency
651 Commerce Drive
Roseville, California 95678

AB 52 Tribal Consultation Notification

Date:	March 14, 2019
To:	Kelli Hayward
Tribe:	Wintu Tribe of Northern California
Subject:	Notification for Tribal Consultation
Project Name:	NCPA Solar Project 1 – Redding Airport
Lead Agency:	Northern California Power Agency

Introduction:

The Northern California Power Agency (NCPA) is proposing the NCPA Solar Project 1 – Redding Airport Project which may be located in a geographical area that is traditionally and culturally affiliated with the Wintu Tribe of Northern California.

Request for Consultation:

California law under Assembly Bill 52 (Public Resources Code §21080.3.1) now allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. This request must be in writing to NCPA and identify a lead contact person. NCPA will begin the consultation process within 30 days of receiving the tribes request for consultation. The consultation may include discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

The consultation does not limit the ability of the tribe to submit information to NCPA regarding the significance of the tribal resources, the significance of the project's impact on tribal cultural resources, or any measures the tribe feels are appropriate to mitigate the potential impacts. If you wish to informally submit information, written comments may be sent to:

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K.S. Dunbar & Associates, Inc.
Environmental Engineering
45375 Vista Del Mar
Temecula, California 92590-4314
(951) 699-2082
E-Mail: ksddpe67@gmail.com

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Overview of the Proposed Project

The objective of the NCPA Solar Project 1 is to develop a fleet of Photovoltaic (PV) Solar Power Plants throughout participating member service territories to be completed and placed in service by the end of 2019. The plants will be managed by the Northern California Power Agency (NCPA) as a single project to be owned and operated by a third-party provider through a power purchase agreement (PPA). After the initial 5 – 7 years of operation, NCPA plans to purchase the plants.

The project will be executed in three phases:

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The Project site consists of two parcels owned by the City of Redding. As shown on Figure 1, they are located directly southeast of the Redding Municipal Airport. The site which totals approximately 100 acres is bordered on the south and east by residential development and on the north and west by open space. Due to constraints, e.g., potential wetland, existing dirt road and transmission lines, approximately 58.3 acres of this site is developable for a solar array. Based on an estimate of 6 acres of land needed per MW, this site would accommodate a 9.7 MW facility.

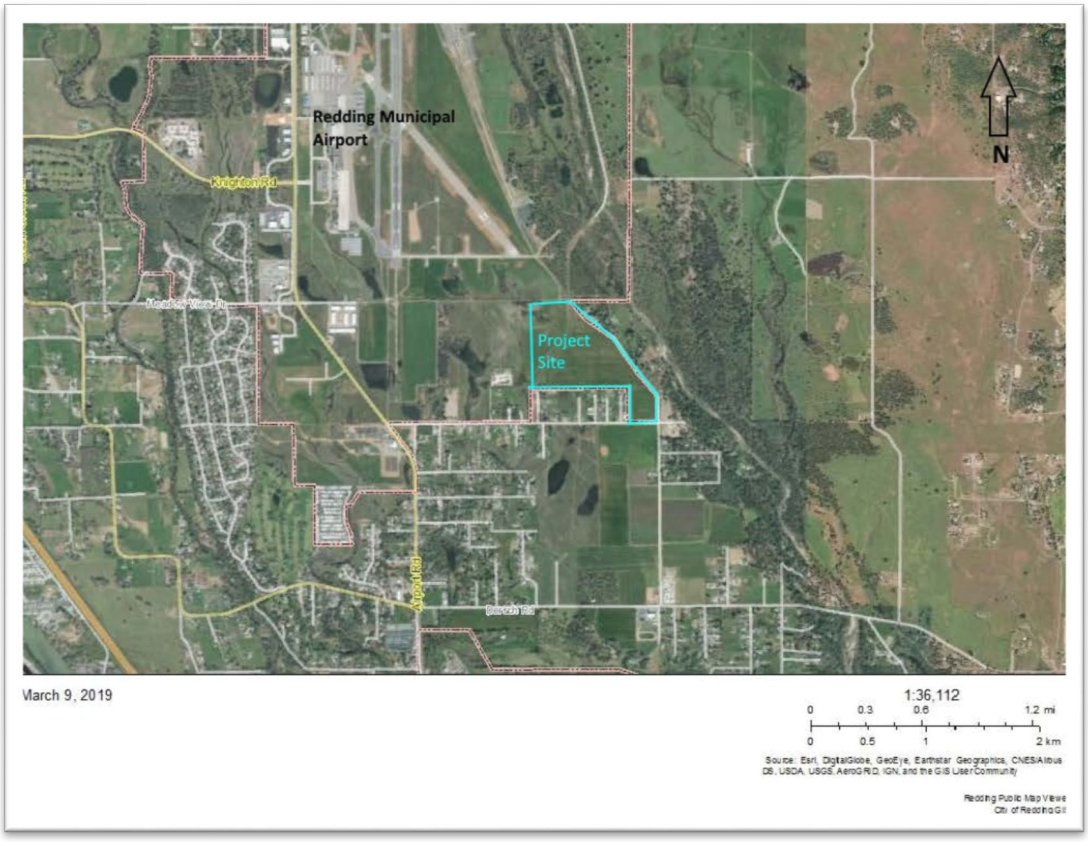

Figure 1 Redding Municipal Airport Project Site

Northern California Power Agency
651 Commerce Drive
Roseville, California 95678

AB 52 Tribal Consultation Notification

Date:	March 14, 2019
To:	Jack Potter, Chairman
Tribe:	Redding Rancheria
Subject:	Notification for Tribal Consultation
Project Name:	NCPA Solar Project 1 – Redding Airport
Lead Agency:	Northern California Power Agency

Introduction:

The Northern California Power Agency (NCPA) is proposing the NCPA Solar Project 1 – Redding Airport Project which may be located in a geographical area that is traditionally and culturally affiliated with the Redding Rancheria.

Request for Consultation:

California law under Assembly Bill 52 (Public Resources Code §21080.3.1) now allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. This request must be in writing to NCPA and identify a lead contact person. NCPA will begin the consultation process within 30 days of receiving the tribes request for consultation. The consultation may include discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

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K.S. Dunbar & Associates, Inc.
Environmental Engineering
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Temecula, California 92590-4314
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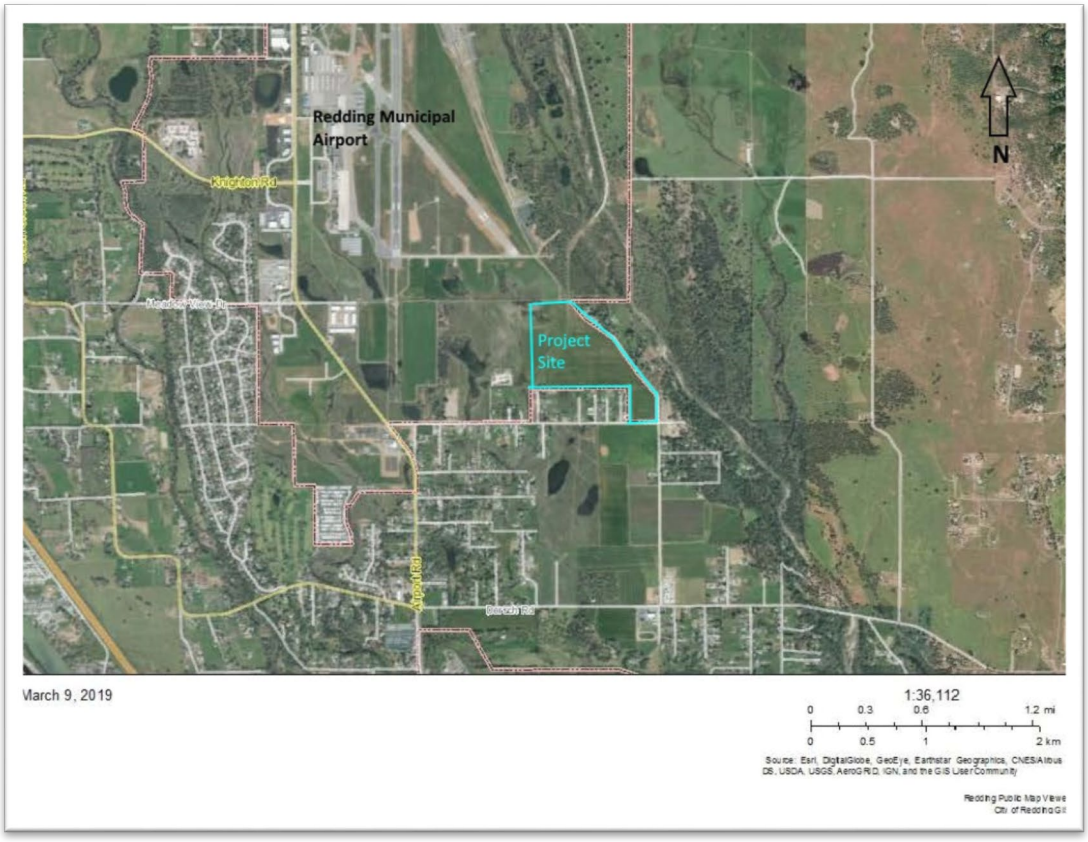

Figure 1 Redding Municipal Airport Project Site

Northern California Power Agency
651 Commerce Drive
Roseville, California 95678

AB 52 Tribal Consultation Notification

Date:	March 14, 2019
To:	Wade McMaster, Chairman
Tribe:	Wintu Tribe of Northern California
Subject:	Notification for Tribal Consultation
Project Name:	NCPA Solar Project 1 – Redding Airport
Lead Agency:	Northern California Power Agency

Introduction:

The Northern California Power Agency (NCPA) is proposing the NCPA Solar Project 1 – Redding Airport Project which may be located in a geographical area that is traditionally and culturally affiliated with the Wintu Tribe of Northern California.

Request for Consultation:

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Environmental Engineering
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The Project site consists of two parcels owned by the City of Redding. As shown on Figure 1, they are located directly southeast of the Redding Municipal Airport. The site which totals approximately 100 acres is bordered on the south and east by residential development and on the north and west by open space. Due to constraints, e.g., potential wetland, existing dirt road and transmission lines, approximately 58.3 acres of this site is developable for a solar array. Based on an estimate of 6 acres of land needed per MW, this site would accommodate a 9.7 MW facility.

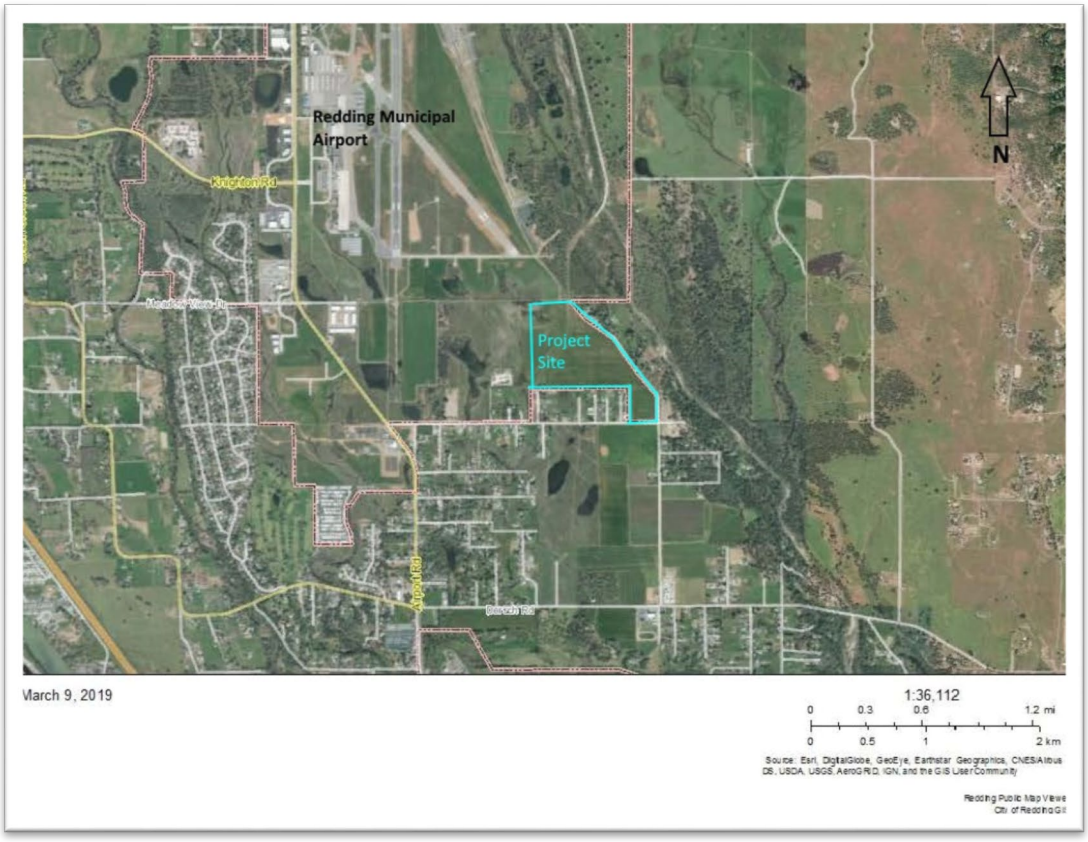

Figure 1 Redding Municipal Airport Project Site

Appendix F

MMRP

Northern California Power Agency
651 Commerce Drive
Roseville, California 95678-6420

Mitigation Monitoring & Reporting Program

NCPA Solar Project 1 – Redding Airport Site

Photo Courtesy of SunPower Corporation

Prepared by:

K.S. Dunbar & Associates, Inc.
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45375 Vista Del Mar
Temecula, California 92590-4314
951-699-2082
Email: ksdpe67@gmail.com

May 2019

Mitigation Monitoring and Reporting Program

NCPA Solar Project 1 – Redding Airport Site

The California Environmental Quality Act (CEQA) requires that when a public agency completes an environmental document which includes measures to mitigate or avoid significant environmental effects, the public agency must adopt a reporting or monitoring program. This requirement ensures that environmental impacts found to be significant will be mitigated. The reporting or monitoring program must be designed to ensure compliance during project implementation (Public Resources Code Section 21081.6).

In compliance with Public Resources Code Section 21081.6, the following MITIGATION MONITORING AND REPORTING CHECKLIST has been prepared for the NCPA Solar Project 1 – Redding Airport Site. This Mitigation Monitoring and Reporting Checklist is intended to provide verification that all applicable Conditions of Approval relative to significant environmental impacts are monitored and reported. Monitoring will include: 1) verification that each mitigation measure has been implemented, 2) recordation of the actions taken to implement each mitigation, and 3) retention of records in the NCPA Solar Project 1 – Redding Airport Site project file.

This Mitigation Monitoring and Reporting Program delineates responsibilities for monitoring the Project, but also allows the Northern California Power Agency (NCPA) flexibility and discretion in determining how best to monitor implementation. Monitoring procedures will vary according to the type of mitigation measure. Adequate monitoring consists of demonstrating that monitoring procedures took place and that mitigation measures were implemented.

Reporting consists of establishing a record that a mitigation measure is being implemented and generally involves the following steps:

- NCPA distributes reporting forms to the appropriate persons for verification of compliance.
- Departments/agencies with reporting responsibilities will review the Environmental Impact Report or Initial Study and Mitigated Negative Declaration, which provides general background information on the reasons for including specified mitigation measures.
- Problems or exceptions to compliance will be addressed to NCPA as appropriate.
- Periodic meetings may be held during project implementation to report on compliance of mitigation measures.
- Responsible parties provide NCPA with verification that monitoring has been conducted and ensure, as applicable, that mitigation measures have been implemented. Monitoring compliance may be documented through existing review and approval programs such as field inspection reports and plan review.
- NCPA or Applicant prepares a reporting form periodically during the construction phase and an annual reporting summarizing all project mitigation monitoring efforts.
- Appropriate mitigation measures will be included in construction documents and/or conditions of permits/approvals.

Minor changes to the Mitigation Monitoring and Reporting Program, if required, would be made in accordance with CEQA and would be permitted after further review and approval by NCPA. Such changes could include reassignment of monitoring and reporting responsibilities, program redesign to make any appropriate improvements, and/or modification, substitution or deletion of mitigation measures subject to conditions described in CEQA Guidelines Section 15162. No change will be permitted unless the Mitigation Monitoring and Reporting Program continues to satisfy the requirements of Public Resources Code Section 21081.6.

Mitigation Monitoring and Reporting Program Checklist

NCPA Solar Project 1 – Redding Airport Site

Mitigation Measure	Monitoring Process	Monitoring Timing	Responsible Person(s)	Date Completed
Air Quality				
NCPA shall appoint a construction relations officer to act as a community liaison concerning on-site construction activities including resolution of issues related to PM_{10} generation. Additionally, best management practices shall be included in contract documents for this project.	Project Records.	Prior To Construction.	Project Manager.	By: Date:
Standard Construction Practices/Design Features NCPA's contract documents for this project will include the following: The contractor shall: ❖ Utilize electricity from power poles instead of from temporary diesel or gasoline power generators, when feasible. ❖ Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the contractor shall use trucks that meet EPA 2007 model year NO_x emissions requirements. ❖ Require that all on-site construction equipment meet EPA Tier 3 or higher emissions standards according to the following: ➢ All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. ➢ A copy of each unit's certified tier specification, BACT documentation, and CARB or Northern Sierra AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. ❖ Maintain construction equipment engines by keeping them properly tuned and maintained according to manufacturer's specifications. ❖ Use alternative fuels or clean and low-sulfur fuel for equipment. ❖ Idle trucks in accordance with the Airborne Toxic Control Measure (ACTM) to Limit Diesel	Project Records.	Prior To Construction.	Project Manager.	By: Date:

Mitigation Measure	Monitoring Process	Monitoring Timing	Responsible Person(s)	Date Completed
Fueled Commercial Motor Vehicle Idling and other applicable laws. ❖ Spread soil binders on site, where appropriate. ❖ Water active construction sites at least twice daily. ❖ Sweep all streets at the end of the day if visible soil materials are carried onto adjacent public paved roads (recommend water sweeper with reclaimed water). ❖ All grading operations shall be suspended when winds (as instantaneous gusts) exceed 20 miles per hour as directed by the Northern Sierra AQMD. ❖ If necessary, wash off trucks leaving the site. ❖ Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114.				
Biological Resources				
Standard Construction Practices/Design Features NCPA's contract documents for this project will include the following: ❖ If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds shall be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a no-disturbance buffer. The size of the no-disturbance buffer (generally 300 feet for migratory and non-migratory song birds and 500 feet for raptors and special-status species) will be determined by the wildlife biologist, in coordination with the CDFW, and will depend on the level of noise and/or surrounding disturbances, line of sight between the nest and the construction activity, ambient noise, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes	Project Records.	Prior To Construction.	Project Manager.	By: Date:

Mitigation Measure	Monitoring Process	Monitoring Timing	Responsible Person(s)	Date Completed
inactive under natural conditions, construction activities within the buffer area can occur.				
Cultural Resources				
Prior to the start of construction, NCPA shall hold a pre-grading meeting. The Project Archaeologist shall attend the pre-grading meeting with NCPA's Project Administrator, Field Engineering Inspector and any contractors to conduct a Cultural Resources Worker Sensitivity Training for all construction personnel working on the proposed Project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated, and any other appropriate protocols.	Project Records.	Prior To Construction.	Project Manager.	By: Date:
Standard Construction Practices/Design Features NCPA's contract documents for this project will include the following: ❖ In the unlikely event that potentially significant archaeological materials are encountered during construction activities, all work shall be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery, access the significance of the archaeological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of cultural material that might be discovered during excavation shall be in accordance with applicable laws and regulations.	Project Records.	Prior To Construction.	Project Manager.	By: Date:
❖ All sacred items, should they be encountered within the Project sites, shall be avoided and preserved as the preferred mitigation, if feasible. All cultural materials that are collected during excavation and other earth disturbing activities on the Project sites, with the exception of sacred items, burial goods and human remains which will be addressed in any required Treatment Agreement, shall be tribally curated according to the current repository standards. The collections and associated records shall be transferred, including title, to the closet tribe to the Project site.				
❖ In the event of an accidental discovery or recognition of any human remains, the County Coroner shall be notified and construction activities at the affected work site shall be halted. If the coroner determines the remains to be Native American: (1) the coroner shall contact the Native American Heritage Commission (NAHC) within 24-hours, and (2) the NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American. The treatment and disposition of human remains that might be discovered during excavation shall be in accordance with applicable laws and regulations.				

Mitigation Measure	Monitoring Process	Monitoring Timing	Responsible Person(s)	Date Completed
Geology and Soils				
Standard Construction Practices/Design Features NCPA's contract documents for this project will include the following: ❖ In the unlikely event that potentially significant paleontological materials (e.g., fossils) are encountered during construction of the project, all work shall be halted in the vicinity of the paleontological discovery until a qualified paleontologist can visit the site of discovery, assess the significance of the paleontological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of paleontological material that might be discovered during excavation shall be in accordance with applicable laws and regulations.	Project Records	Prior to Construction	Project Manager	By: Date:
Hazards and Hazardous Materials				
Standard Construction Practices/Design Features NCPA's contract documents for this project will include the following: ❖ During project construction, the construction contractor shall implement the following measures to address the potential environmental constraints associated with the presence of hazardous materials at the project sites to the satisfaction of NCPA: ✓ The contractor shall prepare a Health and Safety Plan in compliance with the requirements of Chapter 6.95, Division 20 of the Health and Safety Code (§25500 – 25532). The plan shall include measures to be taken in the event of an accidental spill. ✓ The contractor shall enforce strict on-site handling rules to keep construction and maintenance materials out of receiving waters and storm drains. In addition, the contractor shall store all reserve fuel supplies only within the confines of designated construction staging areas; refuel equipment only with the designated construction staging areas; and regularly inspect all construction equipment for leaks. ✓ The construction staging area shall be designed to contain contaminants such as oil, grease, and fuel products to ensure that they do not drain towards receiving waters or storm drain inlets.	Project Records.	Prior To Construction.	Project Manager.	By: Date:
Hydrology and Water Quality				
Standard Construction Practices/Design Features All site grading and excavation activities associated with the construction of the Project facilities would be subject to the provisions of the National Pollutant Discharge Elimination System (NPDES) Construction Permit for Storm Water Discharges Associated with Construction	Project Records.	Prior To Construction.	Project Manager.	By: Date:

and Land Disturbance Activities [NPDES No. CAS000002 (State Water Resources Control Board Order No. 2009-0009-DWQ)]. Compliance with the provisions of that Order would require NCPA to obtain coverage before the onset of construction activities. Construction activities would comply with the conditions of these permits that include preparation of storm water pollution prevention plans (SWPPP), implementation of BMP's, and monitoring to insure impacts to water quality are minimized. As part of this process, multiple BMP's should be implemented to provide effective erosion and sediment control. These BMP's should be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. BMP's to be implemented may include, but not be limited to, the following: ✓ Temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other groundcover shall be employed for disturbed areas. ✓ Storm drain inlets on the site and in downstream offsite areas shall be protected from sediment with the use of BMP's acceptable to NCPA, local jurisdictions and the California Regional Water Quality Control Board, Central Valley Region. ✓ Dirt and debris shall be swept from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events. ✓ No disturbed surfaces shall be left without erosion control measures in place. NCPA, or its Construction Contractor, shall file a Notice of Intent with the Regional Board and require the preparation of a pollution prevention plan prior to commencement of construction. NCPA shall routinely inspect the construction site to verify that the BMP's specified in the pollution prevention plan are properly installed and maintained. NCPA shall immediately notify the contractor if there were a noncompliance issue and require immediate compliance. The SWPPP will also identify the method of final stabilization of the site to ensure no post-construction erosion and impacts to water quality will occur. The Notice of Termination (NOT) and release of the Project from the provisions of the Construction General Permit coverage will be granted by the California Regional Water Quality Control Board, North Coast Region once it is satisfied that no impacts to water quality will occur.				
Noise				
NCPA shall appoint a construction relations officer to act as a community liaison concerning on-site construction activities. Prior to ground disturbing activities NCPA shall notify adjoining property owners of the potential for ground vibration impacts.	Project Records.	Prior to Construction.	Project Manager.	By: Date