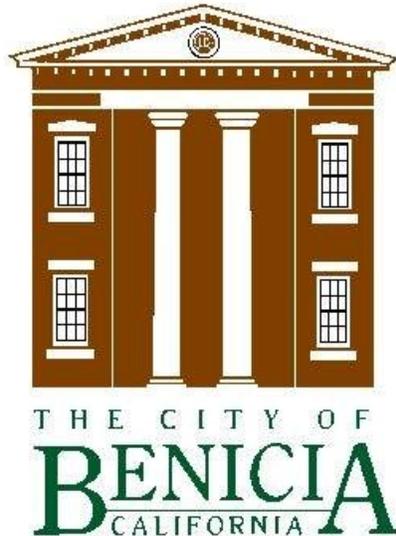


City of Benicia  
Community Development Department



**Lake Herman Road Solar Project**  
**Initial Study/Mitigated Negative Declaration**

**January 2020**

Prepared by



1501 Sports Drive, Suite A, Sacramento, CA 95834

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**APPENDIX:**

SMAQMD Construction Mitigation Tool Results

**INITIAL STUDY**  
**JANUARY 2020**

**A. BACKGROUND**

1. Project Title: Lake Herman Road Solar Project
2. Lead Agency Name and Address: City of Benicia  
Community Development Department  
250 East L Street  
Benicia, CA 94510
3. Contact Person and Phone Number: Suzanne Thorsen  
Principal Planner  
(707) 746-4382
4. Project Location: East of Lake Herman, Northwest of Lake Herman Road  
Benicia, CA 94510  
Assessor's Parcel Number (APN): 0080-030-050
5. Project Sponsor: Renewable Properties, LLC  
665 Montgomery Street, Suite 1430  
San Francisco, CA 94111
6. Existing General Plan: General Open Space
7. Existing Zoning: Open Space (OS)
8. Surrounding Land Uses and Setting:

The project site consists of 88.5 acres and is part of a largely undeveloped swath of hills located in the northern portion of the City of Benicia. Lake Herman is directly west of the project site, and Lake Herman Road is to the south. The site is currently undeveloped and existing land uses in the surrounding area include single-family homes to the southwest, heavy industrial uses to the south, and extensive undeveloped hillsides used for cattle grazing to the north and east. The nearest residence to the project site is located approximately 300 feet to the west. An area north of the property was historically used as a hazardous waste disposal site, and is currently in remediation.

9. Project Description Summary:

The Lake Herman Road Solar Project (proposed project) would include the development of a 35-acre, 5-Megawatt Alternating Current (AC) solar facility with 18,424 solar modules. The modules would be ground-mounted photovoltaic (PV) single-axis solar arrays oriented in the north-south direction to allow each row to slowly rotate over the course of the day. The proposed project would not require a grading permit, and panels would be arranged to avoid areas of the site containing steep slopes. Additionally, the proposed project would include a Zoning Text Amendment to allow Solar Utilities within areas zoned as Open Space (OS) throughout the City.

10. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.1.:

In compliance with Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1), project notification letters were distributed to the Cortina Rancheria – Kletsel Dehe Band of Wintun Indians, Lone Band of Miwok Indians, United Auburn Indian Community of the Auburn Rancheria, and Yocha Dehe Wintun Nation. The letters were distributed on November 8, 2019 and requests to consult were not received during the consultation period.

## **B. SOURCES**

All technical reports prepared for the project analysis are available upon request at the City of Benicia City Hall, located at 250 East L Street, Benicia, CA 94510. The following documents are referenced information sources utilized by this analysis:

1. Anderson Pine Corporation. *Stormwater Control Plan for a Regulated Project, Lake Herman Solar*. July 2019.
2. Arc GIS California Scenic Highways. Available at: <https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=f0259b1ad0fe4093a5604c9b838a486a>. Accessed on November 7, 2019.
3. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
4. CAL FIRE Fire and Resource Assessment Program. *Draft Fire Hazard Severity Zones in LRA, Solano County*. September 17, 2007.
5. CAL FIRE Fire and Resource Assessment Program. *Fire Hazard Severity Zones in SRA, Solano County*. November 7, 2007.
6. California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective* [Table 1-2]. April 2005.
7. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.
8. California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed October 2019.
9. California Department of Conservation. *Geologic Hazards Data & Maps*. Available at: <https://maps.conservation.ca.gov/geologichazards/>. Accessed November 8, 2019.
10. California Public Utilities Commission, Energy Division. *CA Energy Efficiency Strategic Plan: New Residential Zero Net Energy Action Plan 2015-2020*. June 2015.
11. City of Benicia. *Benicia General Plan: From 1847 Into the 21st Century* [pg. 72]. June 15, 1999.

12. Cleveland, Thomas H. *Health and Safety Impacts of Solar Photovoltaics: A California-Focused Forward to the Health and Safety Impacts of Solar Photovoltaics white paper published by the N.C. Clean Energy Technology Center at North Carolina State University in May 2017*. July 29, 2019.
13. Cleveland, Thomas, PE. *Glare Impact Study of Lake Herman Solar Facility*. July 29, 2019.
14. Contra Costa County. *Contra Costa County Airport Land Use Compatibility Plan*. December 2000.
15. Federal Aviation Administration. *Determination of No Hazard to Air Navigation*. April 12, 2019.
16. Federal Emergency Management Agency. *Flood Insurance Rate Map 06095C0635E*. Effective May 4, 2009.
17. Garcia and Associates. *Biological Site Assessment for the RPCA Solar 4, LLC Lake Herman Solar Project Solano County, California*. July 2019.
18. Garcia and Associates. *Cultural Resources Inventory Report: Lake Herman Solar Project, Solano County, California*. July 2019.
19. HEI Corporation. *Phase 1 Environmental Site Assessment – Undeveloped Pasture Land 88.54 Acres on the North side of Lake Herman Road Benicia, California*. July 2019.
20. Renewable Properties, LLC. *Lake Herman Solar – Traffic Analysis – 7.29.19*. July 2019.
21. Renewable Properties. *Lake Herman Solar – Visual Simulation from Lake Herman Road*. September 20, 2019.
22. Sacramento Fish & Wildlife Office Species Information, California Red-legged Frog. Available at: [https://www.fws.gov/sacramento/es\\_species/Accounts/Amphibians-Reptiles/ca\\_red\\_legged\\_frog/](https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/ca_red_legged_frog/). Accessed November 7, 2019.
23. Sacramento Metropolitan Air Quality Management District. *Mitigation: Construction Emissions Mitigation*. Available at: <http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation>. Accessed November 18, 2019.
24. Solano County Airport Land Use Commission. *Travis Air Force Base Land Use Compatibility Plan*. June 13, 2002.
25. United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed November 5, 2019.
26. United States Environmental Protection Agency. *Emissions & Generation Resource Integrated Database (eGRID) Summary Tables 2016*. February 15, 2018.

### **C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

---

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

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

**D. DETERMINATION**

---

On the basis of this Initial Study:

- 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 applicant. 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” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

Suzanne Thorsen  
\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

City of Benicia  
\_\_\_\_\_  
For

## **E. BACKGROUND AND INTRODUCTION**

---

This Initial Study/Mitigated Negative Declaration (IS/MND) provides an environmental analysis pursuant to the California Environmental Quality Act (CEQA) for the proposed project. This document has been prepared by the City of Benicia as lead agency under CEQA. The IS/MND contains an analysis of the environmental effects of construction and operation of the proposed project.

The mitigation measures prescribed for environmental effects described in this IS/MND would be implemented in conjunction with the project, as required by CEQA, and the mitigation measures would be incorporated into the project. In addition, a project Mitigation Monitoring and Reporting Program (MMRP) would be adopted in conjunction with approval of the project.

In accordance with Section 15073 of the CEQA Guidelines, this document is being circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on the report. After the public review period, the City will evaluate comments received on the draft IS/MND, and will prepare responses to address any substantial evidence that the proposed project could have a significant impact on the environment.

## **F. PROJECT DESCRIPTION**

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The following section includes a description of the project's location and surrounding land uses, as well as a discussion of the project components and discretionary actions requested of the City of Benicia.

### **Project Location and Surrounding Land Uses**

The project site is an 88.5-acre parcel (Assessor's Parcel Number 0080-030-050), which is part of a largely undeveloped swath of hills located in the northern portion of the City of Benicia, in Solano County. The parcel is located north of Lake Herman Road and 0.25 miles east of Lake Herman Dam (see Figure 1). The project site is currently undeveloped and surrounding existing land uses include a single-family residence directly west of the site, single-family homes to the southwest, heavy industrial uses to the south, and extensive undeveloped hillsides to the north and east that are used as pasture for horses and cattle. An area north of the project site was historically used as a hazardous waste disposal site, and is currently in remediation. The lowest elevation on the project site is in the southwestern corner (~85 feet above sea level), and the highest elevation is near a ridgetop along the northern boundary (~300 feet above sea level) of the site. Outside of the project site, an intermittent creek parallels the western parcel boundary. The City of Benicia General Plan designates the site as General Open Space and the site is zoned Open Space (OS).

### **Project Components**

The proposed project consists of the construction, operation, and maintenance of a 35-acre, 5-Megawatt AC solar facility (see Figure 2). The proposed project includes approximately 18,424 solar modules and 40 string inverters, which convert solar energy into usable AC power. The modules would be under eight feet in height, and mounted on a steel racking system that would be anchored into the ground, and oriented in the north-south direction. A low horsepower, electric-powered motor would be used to slowly rotate each row over the course of the day from a 60-degree tilt towards the east at sunrise to a 60-degree tilt toward the west by sunset.

**Figure 1**  
**Project Site**





In addition, the proposed project would involve construction of two power stations and 10 equipment racks. Each power station would include a Medium Voltage (MV) transformer, Distributed Antenna System (DAS), and Weather Station. The equipment rack would include four Sungrow 125-kilowatt (kW) string inverters, and a 600-amp (A) main lug only (MLO) panel. Long-term operations and management would include six maintenance trips to the site annually. Maintenance performed during each trip would include solar panel washing, vegetation management, and equipment preventative management. Water for panel washing would be trucked to the site, and the runoff would percolate through the underlying soils. The power generated from the solar facility would be sold to Marin Clean Energy (MCE) through a long-term Power Purchase Agreement. Additionally, the project would be equipped with energy storage systems to allow energy generated onsite to be stored and dispatched onto the grid when needed.

The proposed project would require City approval of a Use Permit and Design Review. Additionally, the proposed project would include a Zoning Text Amendment to allow solar utilities within areas zoned as OS throughout the City upon approval of a Use Permit.

The details of the proposed project are described in further detail below.

### **Access and Circulation**

Access to the project site would be provided by a 20-foot (ft) gravel road off of Lake Herman Road. The 20-ft gravel access road would be designed to accommodate all construction, operations, maintenance, and utility traffic throughout the site. A 12-ft wide dirt road would be constructed along the site perimeter.

### **Landscaping**

A vegetative screen would be planted along the southern border of the project site to limit the visibility of the solar panels. Landscaping would incorporate primarily non-invasive, drought-tolerant, and native vegetation to support beneficial species and avoid the proliferation of invasive weeds. Once the proposed project is built, the area under the panels would be hydroseeded with native grasses to deter erosion onsite. Several Scrub oak trees would be planted south of the project site, and an additional row of Toyon shrubs would be planted along Lake Herman Road (see Figure 3).

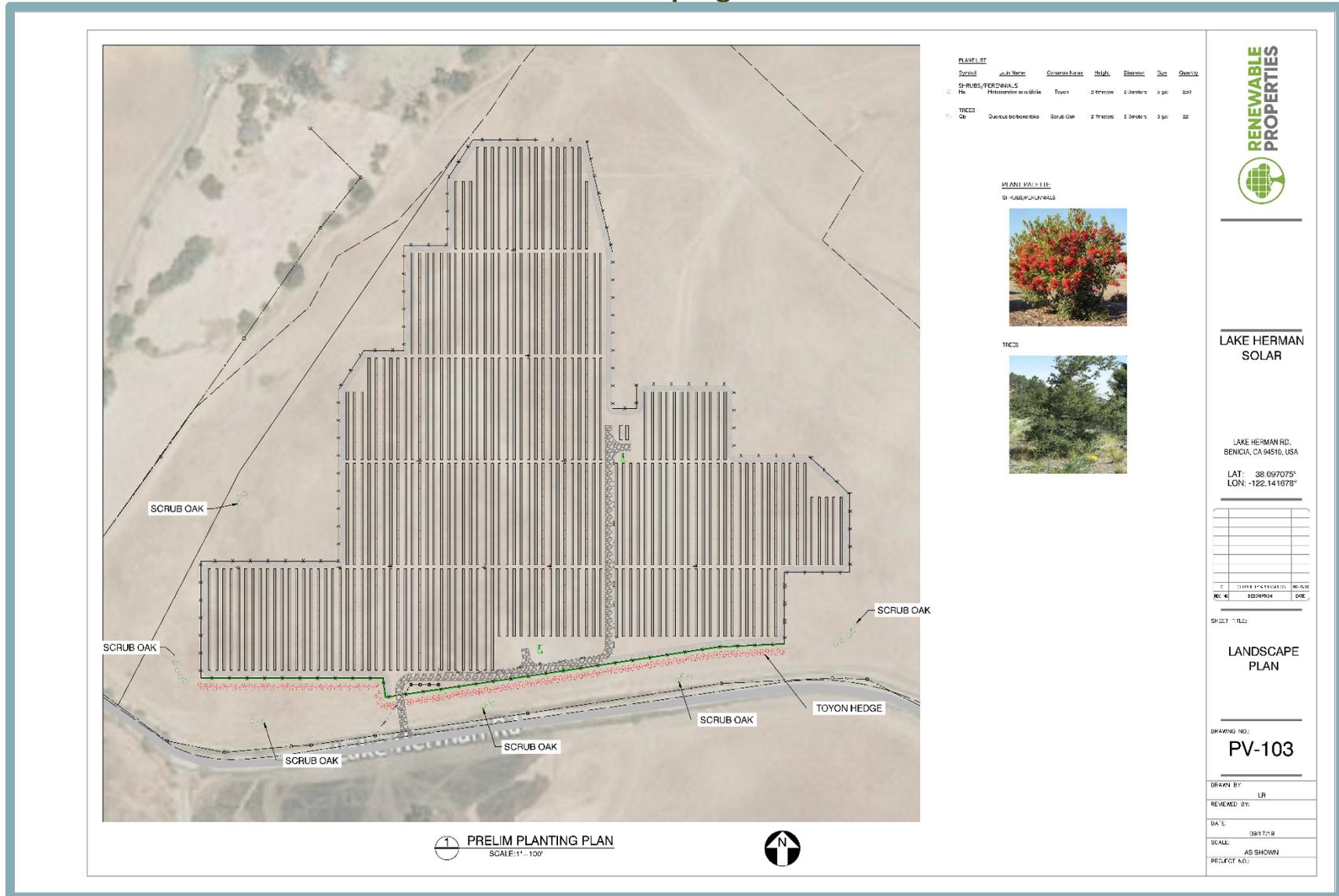
### **Utilities**

The proposed project would connect to Pacific Gas and Electric's (PG&E's) pre-existing electrical system adjacent to the project site. Both power stations would connect to underground MV cables, which would lead to the overhead MV cable. The overhead MV cable would connect to the electric overhead lines that currently exist along Lake Herman Road. A pole-mounted customer recloser, utility recloser, disconnect switch, and utility meter would be built as part of the proposed project. Water and sewer service would not be required for the proposed project.

### **Construction Details**

Construction of the proposed project would not involve mass grading of the site. Ground disturbing activities would be limited to driving piers into the ground for the steel racking system, construction of the 20-ft access road and 12-ft perimeter road, and trenching for electrical utilities. All electrical lines would be undergrounded from each solar panel to a connection point at the access road, at which point the lines would be pole-mounted and drawn overhead across Lake Herman Road to the existing PG&E poles.

Figure 3  
Landscaping Plan



**Zoning Text Amendment**

The proposed project would include a Zoning Text Amendment to allow solar utilities within areas zoned as OS, and define the conditions for developing a solar utility project within the City. The Zoning Text Amendment would change the Benicia Municipal Code (BMC) to create and define a new land use classification of “Utilities, Solar”, and permit that use in “OS” zoning districts, subject to a Use Permit. The amendment would allow construction of the proposed solar facility on the project site, as well as construction of potential future solar facilities on areas zoned OS in the City, subject to approval of Use Permits.

BMC Chapters 17.36 and 17.70 would be revised as follows (added text in red font):

**I. Amendments to Chapter 17.36 (OS OPEN SPACE DISTRICT)**

BMC § 17.16.040 Public and semipublic use classifications.

"Utilities, solar" means photovoltaic electric panels and appurtenant structures and facilities, designed to provide energy for off-site use such as a power purchase agreement, or direct sale of energy to a local utility company.

BMC § 17.36.030 Land use regulations.

OS District: Land Use Regulations

	OS	Additional Regulations
<b>Public and Semipublic</b>		
Utilities, Major	U	(F)
Waste Facility	U	(F)
Utilities, Solar	U	(I)
Utilities, Minor	P	

OS District: Additional Use Regulations  
[footnotes for L1 – H omitted]

(I) See BMC 17.70.420, Solar utilities.

**II. Amendments to Chapter 17.70 (GENERAL REGULATIONS)**

BMC § 17.70.420 Solar utilities.

The following standards shall apply to all solar utilities:

- A. **Agricultural Protections.** Solar utilities shall not be sited on any land subject to a Williamson Act Contract, unless the landowner has rescinded that contract pursuant to its terms.
- B. **No Municipal Services.** Solar utilities shall not require or benefit from municipal services, such as water or sewer services.
- C. **Development Standards.** Solar arrays shall comply with all applicable setback restrictions, including creek setbacks, for the applicable zoning district.
- D. **Height.** For ground-mounted installations, the maximum height shall not exceed 15 feet from finished grade.

- E. Noise. Noise levels shall be in compliance with the noise regulations identified in Chapter 8.20 BMC.
- F. Decommissioning. Upon ceasing operations, or if the facility is non-operational for a period of 12 months, the facility should be decommissioned (or deactivated and removed) in an efficient and thorough manner.
- G. Stormwater Management. All projects greater than one acre shall submit a Stormwater Pollution Prevention Plan and include erosion and sediment control best management practices into the plan.
- H. Minimal Traffic. Solar utilities shall not generate new daily traffic trips during normal operation outside of occasional trips for maintenance.

**IV. Amendments to Chapter 17.74 (OFF-STREET PARKING AND LOADING REGULATIONS)**

BMC § 17.74.030 Off-street parking and loading spaces required.

Use Classification	Off-Street Parking Spaces: Schedule A	Off-Street Parking Spaces: Schedule B Group Number
<b>Utilities, Solar</b>	<b>As specified by use permit</b>	<b>1</b>

**Discretionary Actions**

Implementation of the proposed project would require the approval of the following entitlements by the City of Benicia:

- Adoption of the IS/MND;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Zoning Text Amendment;
- Use Permit; and
- Design Review.

## **G. ENVIRONMENTAL CHECKLIST**

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The following checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue area identified in the checklist. Included in each discussion are project-specific mitigation measures required, where necessary, as part of the proposed project.

For this checklist, the following designations are used:

**Potentially Significant Impact:** An impact that could be significant, and for which mitigation has not been identified. If any potentially significant impacts are identified, an EIR must be prepared.

**Less Than Significant With Mitigation Incorporated:** An impact that requires mitigation to reduce the impact to a less-than-significant level.

**Less-Than-Significant Impact:** Any impact that would not be considered significant under CEQA relative to existing standards.

**No Impact:** The project would not have any impact.

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

**Discussion**

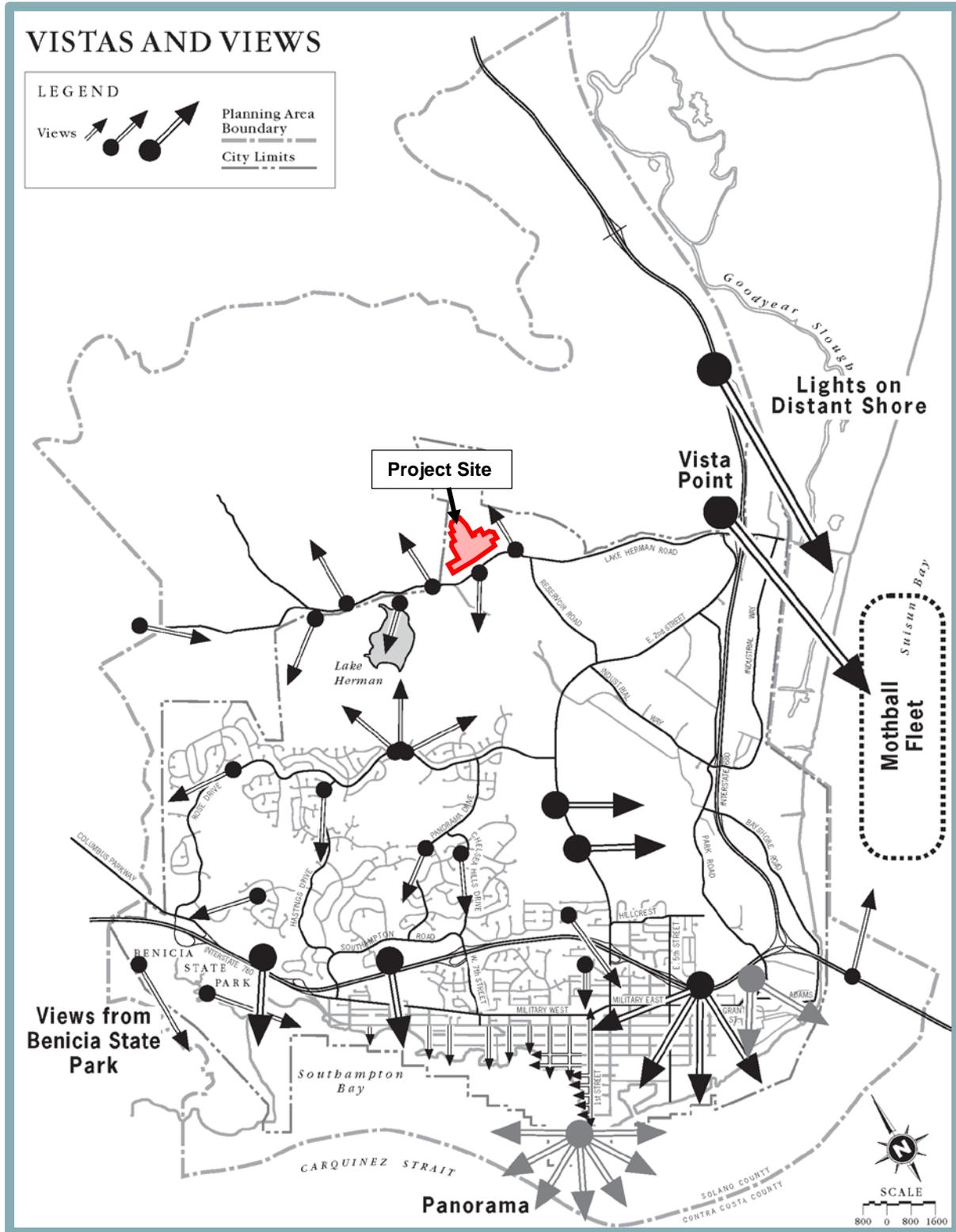
a,c. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project’s impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. The project site is in close proximity to several General Plan designated scenic vistas (see Figure 4), and Policy 2.20.3 of the City’s General Plan requires the maintenance of, “Lake Herman Road as a rural, two-lane, curving scenic route”.<sup>1</sup> The proposed project would be visible at multiple locations along a portion of Lake Herman Road.

The closest designated vista point is directly east of the project site. From the east of the project site and from the neighborhood to the south, the topography of the rolling hills adjacent to the site shields views of the site and would shield views of the proposed panels (see Figure 5). Thus, the likelihood of the proposed panels resulting in a substantial adverse effect on the scenic vista to the east of the site would be low. Additionally, the proposed project would have a minimal impact to the existing scenery as the project footprint represents a small fraction of the entire vista of rolling hills that are characteristic of northern Benicia. The rolling hills in the surrounding area block some views of the solar panels, and portions of Lake Herman Road currently have a natural vegetative barrier that parallels the roadway and would potentially block views of the project from portions of the road. Furthermore, the panels would be under eight feet in height, which would ensure that views of the rolling hills beyond the project site would not be impeded (see Figure 6). The proposed project would be visible along a 1.5-mile stretch of Lake Herman Road, and the project design includes construction of a vegetative screen along the southern boundary of the project site to screen the proposed project. At the nearest point, the project perimeter would be over 115 feet from the road.<sup>2</sup> The setback from the road would be substantial, distancing viewers from the proposed panels. Therefore, the overall character of Lake Herman Road would be maintained to the extent feasible.

<sup>1</sup> City of Benicia. *Benicia General Plan: From 1847 Into the 21st Century* [pg. 72]. June 15, 1999.

<sup>2</sup> Renewable Properties. *Lake Herman Solar – Visual Simulation from Lake Herman Road*. September 20, 2019.

**Figure 4**  
**Scenic Vistas and Views**



Source: City of Benicia. Benicia General Plan: From 1847 Into the 21st Century [pg. 112]. June 15, 1999.

**Figure 5**

View approaching the project site from the east, heading west along Lake Herman Road



**Figure 6**

View looking north onto the project site, demonstrating project size and vegetative screening



The combination of the existing natural topography, limited project size, height of the panels, vegetative screening, and setback from the road allow the rural disposition of the surrounding area to be maintained. While the visual character of the project site would change from an undeveloped hillside to a solar array, there would not be an adverse effect on a recognized scenic vista or degradation of public views. Thus, the project would not degrade the visual quality of the site.

The project includes proposed amendments to the BMC, which would define a new land use classification, “Utilities, Solar” and establish standards for development of solar utilities within areas designated as OS in the City. Per the proposed Zoning Text Amendment, development of new solar utilities within areas designated as OS would require approval of Use Permits. Approval of Use Permits is subject to the requirements of CEQA; consequently, while the proposed project would expand the uses allowable in all areas designated as OS within the City, development of new solar utilities would require site-specific environmental review and would not be allowed by-right by the proposed zoning amendment. The proposed text amendment also limits panel height to 15 feet and requires a setback to be met, further minimizing aesthetic impacts. Thus, implementation of the proposed project would not necessarily result in development of any other solar utilities within OS areas in the City, and impacts from potential future solar utilities on aesthetics would be assessed at the time that such projects are proposed.

Due to the project size and design, and with the implementation of adequate vegetative buffering along the southern perimeter of the project site, the project is not expected to have a negative visual impact. The project would not cause a substantial adverse effect on a scenic vista or substantially degrade the existing visual character or quality of public views of the site and its surroundings, and a **less-than-significant** impact would occur.

- b. According to the California Scenic Highway Map, the nearest scenic highway, State Route 37, is located over seven miles west of the project site.<sup>3</sup> Therefore, the project site is not located within the vicinity of an officially designated State Scenic Highway.

The project includes the proposed Zoning Text Amendment mentioned above. Future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts related aesthetics would be addressed through future project-specific analysis.

Thus, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway, and a **less-than-significant** impact would occur.

- d. The proposed project would not include any illuminated equipment or lighting fixtures that would create new sources of light. The remaining discussion focuses on potential glare that could result from construction of the proposed project.

Thomas Cleveland, PE, conducted a glare impact analysis for the proposed project using ForgeSolar Solar Glare Hazard Analysis Tool (SGHAT) software.<sup>4</sup> PV modules are

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<sup>3</sup> Arc GIS California Scenic Highways. Available at: <https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=f0259b1ad0fe4093a5604c9b838a486>. Accessed on November 7, 2019.

<sup>4</sup> Cleveland, Thomas, PE. *Glare Impact Study of Lake Herman Solar Facility*. July 29, 2019

designed to absorb close to 100 percent of the solar energy that strikes the panel. However, when sunlight strikes the glass front of a solar panel at a glancing angle, a significant portion of the solar radiation is reflected, which can potentially lead to solar glare impacting a person's vision. The project-specific glare impact analysis considered the potential effects of glare on motorists traveling along Lake Herman Road and residential and commercial developments within one mile of the project site, and concluded that glare would not be expected during any time of the year at any of the analyzed locations.

The report also analyzed potential glare effects on the final approach paths for all six runways at Travis Air Force Base, located 14.1 miles northeast of the project site. The Travis Air Force Base Land Use Compatibility Plan classifies all land surrounding the base as one of several impact zones depending on the potential to impact operations. The project site falls within Zone D, and thus, requires that any commercial-scale solar facility not create a glare hazard that would impact the base. The glare impact model predicted that glare of any intensity would not be expected during any minute of the year for any of the flight paths or the air traffic control tower at Travis Air Force Base. It should be noted that the Buchanan Field Airport is also located in the vicinity of the project site, but because the project site is not included in the associated Airport Influence Area or Land Use Compatibility Plan, potential impacts of glare from the proposed project on Buchanan Field Airport were not analyzed.

As discussed previously, while the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts related to new sources of light or glare would be addressed through future project-specific analysis.

Therefore, the proposed project would not create new sources of light or glare that could affect day or nighttime views in the area, and impacts related to light and glare would be considered ***less-than-significant***.

**II. AGRICULTURE AND FOREST RESOURCES.**

*Would the project:*

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

**Discussion**

a,e. Per the California Important Farmland Finder, the entire project site is designated as “Grazing Land”.<sup>5</sup> As such, the site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Furthermore, the project site is not currently zoned or designated for agricultural purposes.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to agricultural resources would be addressed through future project-specific analysis.

Based on the discussion above, the proposed project would not result in the loss of farmland, Unique Farmland, or Farmland of Statewide Importance, or 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, and impacts would be **less-than-significant**.

b. The project site is currently designated General Open Space per the City’s General Plan and is currently zoned OS; thus, the site is not zoned for agricultural use. Additionally, the site is not under a Williamson Act contract. Thus, the proposed project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a

<sup>5</sup> California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed October 2019.

Use Permit and would be subject to CEQA review. Consequently, any potential impacts to agricultural resources would be addressed through future project-specific analysis.

Based on the above, the site is not zoned as agricultural and is not under a Williamson Act, and **no impact** would occur as a result of the proposed project.

- c,d. The project area contains 17 trees total, and thus is not considered forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), and is not zoned Timberland Production (as defined by Government Code section 51104[g]).

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to agricultural resources would be addressed through future project-specific analysis.

For the reasons discussed above, the proposed project would have **no impact** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

### III. AIR QUALITY.

*Would the project:*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

### Discussion

a,b. The City of Benicia is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for the State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>), and State respirable particulate matter 10 microns in diameter (PM<sub>10</sub>) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour PM<sub>2.5</sub> federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal PM<sub>2.5</sub> AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan (CAP), adopted on April 19, 2017. The 2017 CAP was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM<sub>10</sub> standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 CAP. The control strategy serves as the backbone of the BAAQMD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure

continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD’s established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), as well as for PM<sub>10</sub>, and PM<sub>2.5</sub>, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. Thus, by exceeding the BAAQMD’s mass emission thresholds for operational emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> a project would be considered to conflict with or obstruct implementation of the BAAQMD’s air quality planning efforts.

<b>Table 1 BAAQMD Thresholds of Significance</b>			
<b>Pollutant</b>	<b>Construction</b>	<b>Operational</b>	
	<b>Average Daily Emissions (lbs/day)</b>	<b>Average Daily Emissions (lbs/day)</b>	<b>Maximum Annual Emissions (tons/year)</b>
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub> (exhaust)	82	82	15
PM <sub>2.5</sub> (exhaust)	54	54	10

**Source: BAAQMD, CEQA Guidelines, May 2017.**

The primary construction activity associated with the proposed project would be driving the steel support piers into the ground, which would require the use of a bore/drill rig. In addition to use of the bore/drill rig, emissions would occur from the movement of materials to the site, trenching for utilities, and land clearing for the proposed access roads. Specifics about material movement are currently unknown, but given the limited amount of material needed for the project, material movement is not anticipated to represent a significant source of emissions. The proposed project’s construction emissions were quantified using the Sacramento Metropolitan Air Quality Management District (SMAQMD) Construction Mitigation Tool.<sup>6</sup> The SMAQMD Construction Mitigation Tool is a model designed to quantify air quality emissions from specific construction equipment. Although the proposed project would not be under the jurisdiction of SMAQMD, BAAQMD does not currently have a construction mitigation tool. Thus, the district has permitted the SMAQMD tool to be used for analyzing construction emissions throughout the State. The modeling prepared for the project included the following assumptions based on applicant-provided information and conservative estimates:

- Construction would commence in June of 2020;
- A Grader and Scraper would be used to site preparation and land clearing for the proposed roads;
- The Bore/Drill Rig used would be a 50 horsepower, 1999 model GAYK 4000 pile driver;
- The pile driver would be diesel powered; and
- Estimated total hours of use for construction would be approximately 200 hours.

The proposed project’s estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project’s

<sup>6</sup> Sacramento Metropolitan Air Quality Management District. *Mitigation: Construction Emissions Mitigation*. Available at: <http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation>. Accessed on November 18, 2019.

contribution to cumulative air quality conditions is provided below as well. All SMAQMD Construction Mitigation Tool results are included in Appendix A.

**Construction Emissions**

According to the SMAQMD Construction Mitigation Tool results, the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2.

<b>Table 2 Maximum Construction Emissions (lbs/day)</b>			
<b>Pollutant</b>	<b>Effect Daily Emissions</b>	<b>Threshold of Significance</b>	<b>Exceeds Threshold?</b>
ROG	1.06	54	<b>NO</b>
NO <sub>x</sub>	3.79	54	<b>NO</b>
PM <sub>10</sub> (exhaust)	0.36	82	<b>NO</b>
PM <sub>2.5</sub> (exhaust)	0.34	54	<b>NO</b>
<i>Source: SMAQMD Mitigation Model, November 2019 (see Appendix A).</i>			

As shown in the table above, the proposed project’s construction emissions would be well below the thresholds of significance for all applicable compounds. In addition, all projects within the jurisdiction of the BAAQMD are required to implement all of the BAAQMD’s Basic Construction Mitigation Measures, which include the following:

1. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
2. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
3. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
4. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
5. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.
7. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project’s required implementation of the BAAQMD’s Basic Construction Mitigation Measures listed above would help to further minimize construction-related emissions. The above measures would also address dust emissions resulting from land clearing. Because construction would result in emissions below all applicable thresholds

of significance, the proposed project would not result in a significant air quality impact during construction.

### **Operational Emissions**

Operational emissions associated with the proposed project would be attributable to the increase of approximately six vehicle trips per year for maintenance visits. In addition, a low horsepower, electric-powered motor would be used to rotate the solar array throughout the course of the day. The small panel motors and six vehicle trips per year required for maintenance would not result in emissions of NO<sub>x</sub>, ROG, PM<sub>10</sub>, or PM<sub>2.5</sub> in excess of the BAAQMD's recommended significance thresholds or degrade the region's air quality. Therefore, the proposed project's operational emissions would not result in a significant impact to air quality.

### **Cumulative Emissions**

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project's emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region's existing air quality conditions. Because the proposed project would result in emissions well below the applicable threshold of significance for construction-related and operational emissions, the project would not cause a cumulatively considerable contribution to the region's existing air quality conditions.

### **Zoning Text Amendment**

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to air quality or emissions of a criteria pollutant would be addressed through future project-specific analysis.

### **Conclusion**

According to BAAQMD, if a project would not result in significant and unavoidable air quality impacts, the project may be considered consistent with the air quality plans due to the exceedance of the applicable thresholds of significance. The proposed project would result in operational and construction emissions far below the applicable thresholds of significance. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan nor result in a cumulatively considerable net increase of a criteria pollutant, and a ***less-than-significant*** impact would occur.

- c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest existing sensitive receptors is the residence located approximately 300 feet west of the site.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminant (TAC) emissions, which are addressed in further detail below.

### **Localized CO Emissions**

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

Traffic resulting from construction materials would be short-term, and the six annual vehicle trips for maintenance would be a negligible increase in traffic. Thus, the proposed project would not contribute to the traffic along Lake Herman Road. As such, the proposed project would not generate substantial levels of localized CO that would exceed BAAQMD standards.

### **TAC Emissions**

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and

constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. However, short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Specifically, as noted above, construction would occur over approximately six weeks. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would be far less.

All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. Construction of this particular project would be limited, and only a few pieces of equipment would be used. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, the potential for any one sensitive receptor in the area to be exposed to concentrations of pollutants for a permanent or substantially extended period of time would be low.

According to BAAQMD, research conducted by CARB indicates that DPM is highly dispersive in the atmosphere.<sup>7</sup> The closest residential property along the western border of the project site is located approximately 300 feet from the proposed construction activity. As a result of the dispersive nature of DPM, emissions at the project site would be substantially dispersed at the nearest sensitive receptor. Therefore, construction of the proposed project would not be expected to expose nearby sensitive receptors to substantial pollutant concentrations.

### **Zoning Text Amendment**

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts regarding exposure of sensitive receptors to substantial pollutant concentrations would be addressed through future project-specific analysis.

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<sup>7</sup> California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective* [Table 1-2]. April 2005.

## Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to excess concentrations of localized CO, TACs, or criteria pollutants during construction or operation. Therefore, the proposed project would result in a **less-than-significant** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

- d. Emissions of pollutants have the potential to adversely affect sensitive receptors within the project area. Pollutants of principal concern include emissions leading to odors, emissions of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in sections “a” through “c” above. Therefore, the following discussion focuses on emissions of odors and dust during construction and operation of the project.

## Odors

Per the BAAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.<sup>8</sup> Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The proposed project would not introduce any such land uses. Solar utilities are not typically associated with the creation of substantial objectionable odors.

Construction activities often include diesel fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, as discussed above, construction activities would be temporary and involve few pieces of equipment. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. Considering the short-term nature of construction activities and the regulated and intermittent nature of the operation of construction equipment, construction of the proposed project would not be expected to create objectionable odors affecting a substantial number of people.

It should be noted that BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made during construction, BAAQMD would ensure that such odors are addressed and any potential odor effects reduced to less than significant.

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<sup>8</sup> Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 7-1]. May 2017.

## Dust

All projects under the jurisdiction of BAAQMD are required to implement BAAQMD's Basic Construction Mitigation Measures. The measures, which are listed in response to questions (a) through (c) of this IS/MND, would act to reduce construction related dust, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, a revegetation plan would be carried out, and exposed topsoil would not be present on the project site. Thus, project operations would not include any substantial sources of dust.

## Zoning Text Amendment

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to air quality relating to odors or dust would be addressed through future project-specific analysis.

## Conclusion

The proposed solar facility project would not create any objectionable odors. In addition, the nearest sensitive receptor that would be affected by odors is located approximately 300 feet away, at which distance any potential odors would dissipate. Therefore, impacts related to the creation of objectionable odors or dust affecting a substantial number of people would be ***less-than-significant***.

**IV. BIOLOGICAL RESOURCES.**

*Would the project:*

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

**Discussion**

The following discussion is primarily based off the Technical Biological Report prepared for the proposed project by Garcia and Associates.<sup>9</sup>

- a. The project site is currently undeveloped pasture of rolling hills dominated by non-native annual grassland vegetation. Grazing and related agricultural activities have altered the vegetation in favor of species that are tolerant to such disturbances. The project site is defined as a low-growing herbaceous community, dominated by the following non-native annual species: ripgut brome (*Bromus diandrus*), Italian ryegrass (*Festuca perennis*), and black mustard (*Brassica nigra*). Additional non-native species well represented in the project site include Mediterranean lineseed (*Bellardia trixago*), false brome (*Brachypodium distachyon*), purple star-thistle (*Centaurea calcitrapa*), yellow star-thistle (*C. solstitialis*), field bindweed (*Convolvulus arvensis*), medusahead (*Elymus caput-medusae*), and seaside barley (*Hordeum marinum*). Despite the heavy grazing pressure, some native plant species are present, including soft blow wives (*Achyrachaena mollis*), harvest brodiaea (*Brodiaea elegans*), and hayfield tarweed (*Hemizonia congesta*).

Annual grasslands often contain the California ground squirrel (*Otospermophilus beecheyi*), whose burrows provide habitat for various bird and owl species. Three ephemeral channels and a stock pond were identified within the project site, along with 17

<sup>9</sup> Garcia and Associates. *Biological Site Assessment for the RPCA Solar 4, LLC Lake Herman Solar Project Solano County, California*. July 2019.

trees that meet the City of Benicia's recognized tree size requirement. The project site does not overlap with any federally listed critical habitat.

Special-status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal and State Endangered Species Acts. Both acts afford protection to listed and proposed species. In addition, California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are all considered special-status species. Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. In addition, plant species on California Native Plant Society (CNPS) Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

Prior to field surveys, Garcia and Associates conducted a database search to acquire information concerning known habitats and special-status species that may occur on the Project Area. The Project Area is defined as the project site and a two-mile radius outside of the border of the project site in all directions. The following sources were consulted:

- U.S. Fish and Wildlife's (USFWS's) online Information for Planning and Consultation system;
- USFWS's National Wetlands Inventory (NWI) database;
- California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB);
- California Native Plant Society's (CNPS) online inventory;
- Solano County General Plan;
- City of Benicia General Plan; and
- City of Benicia Tree Ordinance.

On June 11, 2019, Garcia and Associates conducted a field survey to evaluate botanical and wildlife resources by walking meandering transects within the project site. The survey assessed habitat suitability for special-status species, and identified potentially protected trees, aquatic features, and presence or potential presence of special-status wildlife and plants. The results of the database search and field survey are discussed below.

### **Special-Status Plants**

Based on the database search, a total of 17 special-status plant species have been recorded within the Project Area. Of 17 identified species, suitable habitat is present for only the following ten taxa: bent-flowered fiddleneck (*Amsinckia lunaris*), California androsace (*Androsace elongata* ssp. *acuta*), big-scale balsamroot (*Balsamorhiza macrolepis*), big tarplant (*Blepharizonia plumosa*), Jepson's coyote thistle (*Eryngium jepsonii*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), pappose tarplant (*Centromadia parryi* ssp. *parryi*), Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*), Santa Cruz tarplant (*Holocarpha macradenia*), and two-forked clover (*Trifolium amoenum*). Related taxa with similar life history characteristics were not present in the project site, suggesting the absence of the 10 aforementioned special-status plants.

Furthermore, the survey was conducted during peak blooming season for many of the special-status plants, and none of the special-status plants were observed.<sup>10</sup> Due to the disturbed nature of the grassland, the probability of special-status plants to occur is low. However, the habitat is suitable for the aforementioned plant taxa. Thus, construction activities associated with the proposed project could result in adverse effects to special-status plant species.

### Special-Status Wildlife

Based on the results of the CNDDDB search, 26 special-status wildlife species were evaluated, nine of which have occurrence within a two-mile radius of the project site. Based on the site survey, Garcia and Associates concluded that none of the special-status wildlife species have a high potential to occur in the project site, but three species, golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), and Swainson's hawk (*Buteo swainsoni*) have a moderate potential to occur. In addition, the project site is immediately outside areas that are designated by the USFWS as California red-legged frog (CRLF, *Rana draytonii*) critical habitat. A potential raptor prey species, California ground squirrel, and their burrows, which can be used by CRLF and other special-status species, were also observed onsite.<sup>11</sup>

### California Red-Legged Frog (CRLF)

CRLF tend to occupy specific habitats that combine both aquatic and upland habitat requirements. Aquatic habitat is comprised of slow-moving streams or ponds, with suitable breeding habitat generally found in deep (greater than 2.5 feet) still or slow-moving pools. Upland habitat includes nearly any area within two miles of an aquatic breeding site that stays cool during summer, and includes sheltering habitat such as logs or small mammal burrows, including California ground squirrel burrows.<sup>12</sup>

The nearest reported CNDDDB occurrence of CRLF was over three miles outside of the Project Area. The project site does not contain known occurrences of CRLF nor suitable breeding habitat for CRLF. However, unpublished surveys found CRLF in aquatic habitat at the confluence of an intermittent creek and Sulfur Springs Creek, which is located approximately 1.6 miles west of the Project Area. Another intermittent stream with associated aquatic habitat parallels the western boundary of the Project Area, but the stream is located on private land and the surveyors did not have access to the parcel. Therefore, evaluation of the stream's potential to provide suitable habitat for CRLF was limited. However, based on the surveyor's evaluation of visible portions of the stream, Garcia and Associates concluded that the stream is not likely to provide suitable breeding habitat due to the extremely shallow depth, presence of livestock, and the seasonal nature of the stream.

The Project Area lies immediately (approximately 350 feet) outside designated critical habitat for CRLF. The stock pond and California ground squirrel burrows within the project site provide potentially suitable non-breeding and upland habitat for CRLF. Frequent use of the stock pond by livestock and an absence of vegetation or other features for

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<sup>10</sup> Garcia and Associates. *Biological Site Assessment for the RPCA Solar 4, LLC Lake Herman Solar Project Solano County, California* [pg. 14]. July 2019.

<sup>11</sup> *Ibid* [pg. 9].

<sup>12</sup> Sacramento Fish & Wildlife Office Species Information, California Red-legged Frog. Available at [https://www.fws.gov/sacramento/es\\_species/Accounts/Amphibians-Reptiles/ca\\_red\\_legged\\_frog/](https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/ca_red_legged_frog/). Accessed November 7, 2019

attachment of egg-masses suggests that the stock pond is not suitable breeding habitat for CRLF, but it may serve as aquatic non-breeding habitat. If ground disturbing activities or loud noises were to occur near CRLF habitat, the frogs may flee the area and be at risk for predation or breeding failure. For the aforementioned reasons, and because the site is adjacent to designated critical habitat and provides potential non-breeding habitat, a potentially significant impact could occur.<sup>13</sup>

### Burrowing Owls

Although burrowing owls were not observed during the site survey, the project site and adjacent area contains suitable habitat for burrowing owls. Suitable habitat for burrowing owls includes open areas with rolling hills and grasslands, which is consistent with the characteristics identified at the project site. Additionally, California ground squirrel burrows were present on the project site, and burrows are often associated with burrowing owls. If ground-disturbing activities were to occur during the nesting season (February 1 through August 31), nests and nestlings that may be present could be destroyed. Thus, in the absence of preconstruction surveys and establishment of exclusion zones for burrowing owls, a potentially significant impact could occur.<sup>14</sup>

### Swainson's Hawk

Swainson's hawks were not observed during the site survey. However, the project site is dominated by annual grassland that includes California ground squirrels, thus providing suitable foraging habitat for the species. Additionally, the areas adjacent to the project site contain eucalyptus trees, which are considered suitable nesting habitat for Swainson's hawks. If ground-disturbing activities were to occur during the nesting season (February 1 through August 31), nests and nestlings that may be present could be destroyed or disturbed. Thus, in the absence of preconstruction surveys and establishment of exclusion zones for nesting Swainson's hawks, a potentially significant impact could occur.<sup>15</sup>

### Golden Eagle

Golden eagles were not observed during the survey, and the project site has no suitable nesting sites. However, eucalyptus trees on adjacent land provide suitable nesting habitat, and the site's open grassland and presence of California ground squirrels could be suitable foraging habitat for the golden eagle. In 1987, golden eagles successfully nested within 1.5 miles of the project area, but more recent use of the area for golden eagle nesting has not been documented, and may have been discouraged by subsequent urban development. If ground-disturbing activities were to occur during the nesting season (February 1 through August 31), and a golden eagle nest is located in proximity to the project site, nesting failure could occur. Thus, in the absence of preconstruction surveys and establishment of exclusion zones for nesting golden eagles, a potentially significant impact could occur.<sup>16</sup>

### Nesting and Migratory Birds

One occupied American kestrel (*Falco sparverius*) nest was observed in a eucalyptus tree located immediately outside the project site, and an occupied black phoebe (*Sayornis*

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<sup>13</sup> Garcia and Associates. *Biological Site Assessment for the RPCA Solar 4, LLC Lake Herman Solar Project Solano County, California* [pg. 11]. July 2019.

<sup>14</sup> *Ibid* [pg. 13].

<sup>15</sup> *Ibid* [pg. 13-14].

<sup>16</sup> *Ibid* [pg. 12-13].

*nigricans*) nest was observed in a culvert under Lake Herman Road. In addition, one unoccupied raptor nest-structure was present in an oak tree south of the project site, and a single red-tailed hawk (*Buteo jamaicensis*) was perched on a distribution pole immediately west of the project. The aforementioned species as well as other species protected by the MBTA could potentially use the habitat located within the project site. If construction were to occur near protected nesting or migratory birds, a potentially significant adverse impact could occur.<sup>17</sup>

### Zoning Text Amendment

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to biological resources would be addressed through future project-specific analysis.

### Conclusion

Based on the discussion above, implementation of the proposed project could potentially affect special-status plants, CRLF's, burrowing owls, Swainson's hawk, golden eagles and protected nesting and migratory birds. Thus, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Therefore, a **potentially significant** impact could occur.

### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level. The mitigation measures below refer only to the proposed solar installation, and not the Zoning Text Amendment.

- IV-1. *Prior to initiation of construction, all personnel must attend a preconstruction environmental training to review potential special-status wildlife that could be found in the project area and ensure that mitigation measures for the project are understood and implemented. The training shall include a description of the species and their habitat needs, a report of the occurrence of the species in the project area, an explanation of the status of the taxa and its protection under ESA, CESA, and/or California Fish and Game Code, a list of measures being taken to reduce impacts to the species during construction, and responsibilities of employees. A fact sheet conveying this information shall be prepared for all personnel associated with the project and for anyone else who may enter the site. Upon completion of training, employees shall sign a form stating that they attended the training and understand all the conservation and protective measures. The training form shall be submitted to the City's Community Development Department.*

*Work areas, staging areas, and access roads shall be limited to those mentioned in the final project description. All heavy equipment, vehicles,*

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<sup>17</sup> Garcia and Associates. *Biological Site Assessment for the RPCA Solar 4, LLC Lake Herman Solar Project Solano County, California* [pg. 11]. July 2019.

*and construction activities shall be confined to these designated areas. The activity footprint shall be minimized to reduce the potential for impacts to special-status species. The development of new access roads, including clearing and blading for temporary vehicle access in areas of natural vegetation, shall be minimized. Vehicle speeds on unpaved roads shall not exceed 15 miles per hour. Trash dumping, firearms, open fires (such as barbecues), hunting, and pets shall be prohibited at the work site. All trash and waste items generated by construction or crew activities shall be properly contained and removed from the project site. All project personnel shall visually check for animals beneath vehicles and equipment immediately prior to operation.*

*The potential for wildlife to seek refuge or shelter in pipes and culverts shall be minimized. Any pipes, culverts, or other open-ended materials and equipment stored onsite shall be inspected for animals prior to moving, burying, or capping to assure that no animals are present within the materials and equipment. To prevent accidental entrapment of wildlife during construction, all excavated holes, ditches, or trenches greater than one foot deep shall be covered at the end of each workday by suitable materials, or escape routes shall be constructed. After opening and before filling, such holes, ditches, and trenches shall be thoroughly inspected for trapped animals. Auger holes or fence post holes shall be immediately filled or securely covered so they do not become pitfall traps.*

*If a special-status species is discovered in the project area, the Project Manager shall be contacted. The Project Manager shall report the sighting to the appropriate natural resource agency(ies) (e.g., CDFW, USFWS, etc.) within 24 hours. The animal shall be allowed to move off site on its own accord. Special- status species shall not be taken off the premises or harassed. Soil shall be stockpiled within established work area boundaries and located so as not to enter water bodies, stormwater inlets, or other standing bodies of water. Stockpiled soil shall be covered prior to precipitation. A copy of all applicable permits and approvals, with associated maps, conditions, and mitigation measures shall be kept onsite at all times.*

*The project contractor shall ensure that all refueling, maintenance, and staging of equipment vehicles shall be located at least 100 feet from riverine and/or aquatic habitat. If refueling must be conducted closer to watercourses, a secondary containment area subject to review by an environmental field specialist and/or biologist shall be constructed. Spill prevention and cleanup equipment shall be placed and maintained in refueling areas.*

### *Special-Status Plants*

- IV-2. Prior to any ground disturbance, a qualified biologist shall conduct a preconstruction survey to identify any special-status plant species on the project site. A written summary of the survey results shall be submitted to the City of Benicia Community Development Department.*

*If special-status plant species are observed on the project site, individuals shall be marked (e.g., with flagging or construction fencing) and avoided during construction activities. Depending on the species, buffer zones around the plants may be established to avoid effects on special-status plants. Proof of buffer zones shall be submitted to the City of Benicia Community Development Department.*

### *California Red-Legged Frog*

IV-3. *To the extent feasible, ground disturbing activities shall be conducted during the dry season (April 1 to October 31).*

*If construction cannot be avoided outside of the dry season, then a qualified biologist shall survey the work area for CRLF no more than 48 hours prior to the start of initial ground disturbing activities. The survey shall consist of walking the project limits and within the project site to ascertain the possible presence of CRLF. The qualified biologist shall investigate all potential areas that would be used by CRLF. This includes adequate examination of mammal burrows. If CRLF are found, they shall be allowed to leave the project site on their own. Survey results shall be submitted to the City of Benicia Community Development Department.*

*If CRLF are encountered during construction, all activities which have the potential to result in the harassment, injury, or death of the individual shall be immediately halted, and the qualified biologist shall be contacted for further direction. To the maximum extent possible, contact with the frog shall be avoided and the frog shall be allowed to move out of the potentially hazardous situation to a secure location on its own volition. If the frog cannot leave the project site on its own, the qualified biologist shall contact the USFWS for further guidance.*

*A qualified biologist shall implement a buffer of 25 feet from the edge of ponds, aquatic features, and riparian areas shall be maintained. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew shall implement other measures as prescribed by the biologist to minimize impacts by flagging access, requiring foot access, restricting work until the dry season, or requiring a biological monitor during the activity. Proof of implementation shall be submitted to the Community Development Department.*

*Prior to initiation of construction, a qualified biologist shall determine if Construction Area Delineation and Environmentally Sensitive Area Fencing shall be used to protect sensitive areas of the site. The boundaries of the project site shall be clearly identified with Construction Area Delineation fencing to prevent workers or equipment from straying outside the project site. All construction personnel, equipment, and activities shall be confined to designated construction work and staging areas. Proof of implementation of the sensitive area shall be submitted to the Community Development Department.*

## Burrowing Owl

IV-4. *Prior to any ground disturbance, the project biologist shall conduct a pre-construction survey for western burrowing owls within the disturbance footprint and within 500 feet from the perimeter of the footprint where possible. Surveys shall take place no more than 30 days prior to construction and shall be conducted near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. During the breeding season (February 1 to August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1 to January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results shall be valid only for the season (breeding or nonbreeding) during which the survey is conducted. Written results of the preconstruction survey shall be submitted to the City of Benicia Community Development Department. If western burrowing owls are not discovered, then further mitigation is not necessary.*

IV-5. *If burrowing owls are found during the breeding season (February 1 to August 31), the project proponent shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance shall include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 to January 31), the project proponent shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a buffer zone (described below).*

*During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur shall be established around each occupied burrow (nest site). Buffer zones of 160 feet shall be established around each burrow being used during the nonbreeding season. The buffers shall be delineated by highly visible, temporary construction fencing.*

*If occupied burrows for burrowing owls cannot be avoided outside of the nesting period, passive relocation shall be implemented. Owls shall be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. Such doors shall be in place for 48 hours prior to excavation. The project area shall be monitored daily for one week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure shall be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.*

### Swainson's Hawk

IV-6. *Prior to any ground disturbance which are conducted during the nesting season (March 15 to September 15), a qualified biologist shall conduct a preconstruction survey no more than one month prior to construction in order to establish whether occupied Swainson's hawk nests are located within 1,000 feet of the project site. A written summary of the survey results shall be submitted to the City of Benicia Community Development Department. If occupied nests are not found during the survey, further mitigation is not required.*

IV-7. *If potentially occupied nests are identified within the site or immediate vicinity of the project site, then the occupancy of the nests shall be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the project site. If nests are occupied, minimization measures and construction monitoring are required (see below).*

*During the nesting season (March 15 to September 15), covered activities within the biologist-established exclusion zone of occupied nests or nests under construction shall be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be used, the Project applicant shall coordinate with CDFW/USFWS to determine the appropriate buffer size. If young fledge prior to September 15, covered activities may proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project applicant may apply to the City of Benicia Community Development Department for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFW. While the nest is occupied, activities outside the buffer may take place. All active nest trees shall be preserved on site, if feasible. Nest trees, including non-native trees, lost to covered activities shall be mitigated by the project proponent according to the requirements below.*

### Golden Eagle

IV-8. *Prior to any ground disturbance, a qualified biologist shall conduct a preconstruction survey to establish whether nests of golden eagles are occupied. A written summary of the survey results shall be submitted to the City of Benicia Community Development Department. If occupied nests are not found during the survey, further mitigation is not required.*

IV-9. *If nests are occupied, minimization requirements and construction monitoring shall be required to the satisfaction of the qualified biologist.*

*Ground disturbing activities shall be prohibited within 0.5-mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak*

*activity in March through July. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the project applicant shall coordinate with CDFW/USFWS to determine the appropriate buffer size.*

*Construction monitoring shall focus on ensuring that construction activities do not occur within the buffer zone established around an active nest. Construction monitoring shall ensure that direct effects to golden eagles are minimized.*

### *Raptors and Migratory Birds*

*IV-10. Prior to any ground disturbance related to covered activities during the nesting season (March 15 to September 15), a qualified biologist shall conduct a preconstruction survey 30 days or less prior to construction in order to establish whether occupied migratory bird and/or raptor nests are located within 250 feet of the project site. A written summary of the survey results shall be submitted to the City of Benicia Community Development Department. If occupied nests occur on-site or within 250 feet of the project site, then Mitigation Measure IV-11 shall be implemented. If occupied nests are not found, further mitigation is not necessary.*

*IV-11. During the nesting season (March 15-September 15), if occupied nests occur on-site or within 250 feet of the project site, construction activities within 250 feet of occupied nests or nests under construction shall be prohibited to prevent nest abandonment. If site-specific conditions, or the nature of the covered activity (e.g., dense vegetation, limited activities) indicate that a smaller buffer could be used, the project applicant may coordinate with CDFW/USFWS to determine the appropriate buffer size. If young fledge prior to September 15, construction activities can proceed normally.*

b,c. An assessment of aquatic ecosystems and riparian habitat within the project vicinity was conducted as part of the Technical Biological Report prepared by Garcia and Associates. Four aquatic features were present in the project site: three ephemeral channels and one stock pond. One of the ephemeral channels appears to accommodate seasonal water flow along the southern boundary of the project site. The stock pond is on the western side of the project site, and the two other channels occur both upstream and downstream of the stock pond and eventually lead to an intermittent stream outside of the project area.

USFWS's NWI database identified three riverine features in the project area. While the features are topographic low points, evidence from the field survey did not support the presence of wetlands or unvegetated water features. The dominant plant species in the depressional topography were upland plants, including purple star-thistle, yellow star-thistle, riggut brome, and field bindweed, and both indicators of hydric soils and wetland hydrology were lacking. In addition, no channel with bed and banks were present.

Vernal pools or wetlands were not observed in or near the project site.<sup>18</sup> Thus, vernal pools or species associated with vernal pools would not be impacted by construction of the proposed project. The proposed project design complies with the City of Benicia General Plan Policy 3.22.1, which mandates a minimum 25-foot setback for developments near the top of streams and ravines.<sup>19</sup>

Riparian habitat refers to the ecosystem found along a moving body of water, such as a river or stream. Riparian habitat is associated with the ephemeral channels listed above, but the channels do not overlap or conflict with the proposed solar configuration.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to aquatic features would be addressed through future project-specific analysis.

Construction of the proposed project involves minimal ground disturbance and the project design complies with the City's required 25-foot buffer from aquatic features. However, in an excess of caution, the following mitigation measure is recommended to ensure that construction would not impact any nearby aquatic features. Therefore, the proposed project could have a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands, and a **potentially significant** impact could occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level. The mitigation measure below applies only to the proposed solar installation.

*IV-12. A fencing plan shall be prepared to avoid any aquatic features (i.e., stock pond and three ephemeral channels) if construction is to occur within 50 feet of the aquatic features. Prior to construction, the aquatic features shall be marked with flagging or construction fencing according to the fencing plan. Project improvement plans shall include the following requirements as notes:*

*Extreme caution shall be exercised when handling and or storing chemicals (fuel, hydraulic fluid, etc.) near waterways. All applicable laws/regulations and Best Management Practices (BMPs) shall be followed. Appropriate materials shall be kept on site to prevent and manage spills. Equipment, when not in use, shall be stored in upland areas outside of avoided aquatic features and riparian areas.*

*All construction equipment shall be well maintained to prevent leaks of fuels, lubricants or other fluids. All equipment shall be inspected before being brought on site, and daily while on site for leaks.*

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<sup>18</sup> Garcia and Associates. *Biological Site Assessment for the RPCA Solar 4, LLC Lake Herman Solar Project Solano County, California* [pg. 9]. July 2019.

<sup>19</sup> City of Benicia. *Benicia General Plan: From 1847 Into the 21st Century* [pg. 136]. June 15, 1999.

*Any stationary equipment containing lubricating oils and fuel (e.g., portable compressor, hydraulic pump, cranes, generators, etc.) shall be placed within secondary containment, in upland areas whenever feasible. Where this is not feasible, stationary equipment and the secondary containment may be placed in areas that are dry, but shall not be left overnight, weekends, or other times when construction personnel are not present.*

*Once all work has been completed, the affected work areas shall be restored to as close to their original state as practicable. Newly denuded or exposed soils shall be stabilized using BMPs. The area shall be restored and/or revegetated as appropriate. Any seed used for post-construction restoration shall include California native species endemic to the project area. The recommended fencing plan and improvement plans shall be submitted by the project biologist to the City of Benicia Community Development Department for review and approval.*

- d. The proposed project site could currently act as a movement corridor because of the open nature of the site. The project plan includes construction of a perimeter dirt road, which could pose a threat to the movement of certain species that require the presence of grasses for migration. However, the project site is bounded on three sides by open space, so if an animal were required to cross the site, the animal could do so by way of the northern boundary. Additionally, some species would be able to cross the project site after construction because the solar panel supports only occupy a small portion of the total site. The ephemeral channels onsite would not be impacted by the proposed construction, and even so, the intermittent nature of these waterways suggests that the channels are not used by migratory fish. Therefore, the proposed project would not inhibit wildlife movement.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to wildlife corridors or migratory features would be addressed through future project-specific analysis.

As such, the project would not interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Thus, a ***less-than-significant*** impact would occur.

- e. Multiple trees currently exist on the project site, 17 of which meet the City of Benicia's recognized tree size requirement. However, construction of the proposed project does not involve removal of any trees. Therefore, the proposed project would not conflict with Chapter 12.24.030 of the BMC related to protected trees.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to trees or tree removal policies would be addressed through future project-specific analysis.

As a result, the proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and a **less-than-significant** impact would occur.

- f. The Solano Multi-Species Habitat Conservation Plan (HCP) covers portions of Solano County. The City of Benicia is not a participant in the HCP and the proposed project site is not within an area encompassed by the HCP.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to biological resources would be addressed through future project-specific analysis. However, because the City is not a participant of the HCP, allowing solar utilities within OS areas of the City would not have potential to conflict with the HCP.

Therefore, the proposed project would not conflict with the local HCP and a **less-than-significant** impact would occur related to conflicts with an adopted HCP, NCCP, or other approved local, regional, or State HCP.

**V. CULTURAL RESOURCES.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

The following discussion is based off the Cultural Resources Inventory Report prepared for the proposed project.<sup>20</sup>

a,b,c. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

Garcia and Associates requested a cultural resource records search that was conducted by the Northwest Information Center (NWIC) at Sonoma State University. The NWIC record search indicated that five previous cultural resource studies were conducted within the project area or within a 0.25-mile radius. While some historical resources were identified, none were eligible for listing under the National Register of Historic Places (NRHP). Garcia and Associates contacted the Native American Heritage Commission (NAHC) requesting information regarding a search of their Sacred Lands Files (SLF). The search of the SLF conducted by the NAHC indicated negative results for sacred sites within the project area and/or vicinity. In addition, Garcia and Associates contacted several local tribes, including the Cortina Rancheria – Kletsel Dehe Band of Wintun Indians, United Auburn Indian Community of the Auburn Rancheria, and Yocha Dehe Wintun Nation, with a consultation invitation. A pedestrian survey of the project area was conducted with a trowel and rock hammer using 15-meter wide parallel transects. Cultural resources were not observed during the pedestrian survey. Due to the absence of cultural resources within and in the vicinity of the project site, the project area is considered to have low sensitivity for cultural resources.

The proposed project would result in isolated drilling for steel piers, as well as construction of the gravel driveway and perimeter dirt road. Ground disturbance would be limited to discrete areas and a relatively small portion of the total project site. While historic resources have not been recorded at the project site, the potential exists for previously undiscovered subsurface resources to occur onsite. Thus, ground-disturbing activity related to project construction could encounter such resources.

<sup>20</sup> Garcia and Associates. *Cultural Resources Inventory Report: Lake Herman Solar Project, Solano County, California*. July 2019.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to cultural resources would be addressed through future project-specific analysis.

Based on the analysis above, the proposed project could cause a substantial adverse change in the significance of a historic or archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of formal cemeteries during construction. Therefore, impacts related to implementation of the proposed project could be considered **potentially significant**.

#### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level. The mitigation measures below apply only to the proposed solar installation.

- V-1. *Prior to the approval of the grading plans, the project's improvement plans shall include notes (per Public Resources Code 5097.97 and Health and Human Safety Section 7050.5 of the California Health and Safety Code) indicating that if cultural resources are identified during ground disturbing activities associated with the proposed project, all work within 100-feet of the finding shall be halted until a qualified archaeologist can review and assess the nature of the find. If the resource is also a tribal cultural resource the consultation tribe(s) will also require notification and opportunity to consult on the findings. This will be conducted in accordance with the City and land owner. No ground disturbing work in the vicinity of the find shall occur until the resource has been evaluated, if the resource is found eligible for CRHR and avoidance is not feasible then an evaluation and/or data recovery mitigation program shall be drafted and implemented. The archaeologist shall be required to submit a report of findings to the City's Community Development Department for review.*
- V-2. *Prior to the approval of the grading plans, the project's improvement plans shall include notes (per Public Resources Code 5097.97 and Health and Human Safety Section 7050.5(b) of the California Health and Safety Code) indicating that if human remains are encountered during ground disturbing activities, the following actions shall apply. Upon identification of human remains all excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner shall contact the NAHC. The NAHC will identify the person or persons believed to be most likely descendant (MLD) from the deceased Native American. The MLD will provide recommendations regarding the treatment of the remains with appropriate dignity (refer to PRC 5097.94 for complete guidelines).*
- V-3. *If the project design changes and ground disturbance are anticipated beyond the proposed project area, as it is currently defined, further surveys shall be conducted in those areas to assess the presence of cultural resources. Any newly discovered or previously recorded sites within the additional survey areas shall be recorded (or updated) on appropriate DPR*

*523-series forms. If avoidance of these resource is not feasible then an evaluation and/or data recovery program shall be drafted and implemented. The project applicant shall be required to submit the updated project design and corresponding surveys to the City's Community Development Department prior to any ground-disturbing activity beyond the original project area.*

**VI. ENERGY.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>

**Discussion**

- a. Ground disturbance associated with the proposed project would be limited to driving anchoring piers into the ground to support the proposed solar panels, and building the access road and perimeter dirt road. Overall, the construction process would be relatively low-impact and efficient, considering construction does not require mass grading, paving, or development of any new structures. During operation, the project’s energy demand would be electricity use associated with adjusting the angle of the proposed solar panels over the course of the day. Additionally, the proposed project would include generation of renewable energy, resulting in a net gain in energy resources.

The project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City. However, future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Any potential impacts to consumption of energy resources would be addressed in future project-specific analysis.

Therefore, the proposed project would have a **less-than-significant** impact on energy demands due to wasteful, inefficient, or unnecessary consumption of energy resources.

- b. Alternative energy, such as solar power, is supported in California’s Energy Efficiency Strategic Plan,<sup>21</sup> which establishes the groundwork for accomplishing zero-net energy statewide. The proposed project would involve the generation of renewable energy, and therefore would not conflict with any state or local plans regarding energy efficiency. The proposed project complies with State legislation regarding renewable energy generation and storage, and contributes to renewable energy resources.

As discussed previously, the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City. The Zoning Text Amendment would comply with the Energy Efficiency Strategic Plan mentioned above by allowing expedited development of renewable energy facilities. Future development of solar utilities in areas zoned OS would still require approval of a Use Permit and would be subject to CEQA review.

Based on the discussion above, the proposed project would have **no impact** with regard to conflicting with or obstructing state or local plans for renewable energy or energy efficiency.

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<sup>21</sup> California Public Utilities Commission, Energy Division. *CA Energy Efficiency Strategic Plan: New Residential Zero Net Energy Action Plan 2015-2020*. June 2015.

**VII. GEOLOGY AND SOILS.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

ai, aii. The City of Benicia is located in the San Francisco Bay Area, which is a seismically active region. An active fault, the Green Valley fault line, is located roughly two miles east of the project site, and the Southhampton fault line is to west.<sup>22</sup> However, the Southhampton fault line has not been active in the last 1.6 million years.

Because the project site is not directly on a fault line, rupture of a known earthquake fault would not directly cause adverse effects. However, due to the proximity to known fault lines, the project site has a high risk of substantial seismic ground shaking. The proposed project does not include residences or facilities for human occupancy; thus, humans would not be on-site and would not be subject to injury by ground shaking. Further, implementation of the proposed project would not include construction of any buildings that would be subject to damage from seismic activity.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Furthermore, future solar installations would be required to comply with applicable building standards, such as the California

<sup>22</sup> California Department of Conservation. *Geologic Hazards Data & Maps*. Available at: <https://maps.conservation.ca.gov/geologic Hazards/>. Accessed November 8, 2019.

Building Standards Code (CBSC), which would ensure that the structures are adequately designed to resist damage from seismic activity. Consequently, any potential impacts to regarding rupture of a known earthquake fault or risks of damage from seismic activity would be addressed through future project-specific analysis.

Because the project is located in a seismically active area, there is a risk of property damage. However, humans would not be on-site during operations, and thus, human loss, injury, or death would not occur as a result of fault rupture, and the impact is considered **less-than-significant**.

a.iii, a.iv,

- c. Based on the Department of Conservation's Geologic Hazards and Data map, the project site is not in a liquefaction zone or near a landslide zone.<sup>23</sup> Thus, the proposed solar panels would not be subject to hazards from liquefaction or landslides. Construction and soil displacement as a result of the proposed project would be limited to drilling panel footings, implementation of two unpaved roads, and trenching for utilities. Because ground disturbance of the proposed project is limited to the aforementioned activities, the project would not destabilize large areas of soil and would not increase the likelihood of soils becoming unstable.

Lateral spreading is horizontal ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. The project site does not contain any open faces that would be considered susceptible to lateral spreading.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential risks of damage from landslides, liquefaction, or lateral spreading would be addressed through future project-specific analysis.

Based on the above, the impact of the proposed project on risks related to landslides, liquefaction, and lateral spreading would be **less-than-significant**.

- b. Soil loss and erosion can occur during construction due to removal of on-site vegetation and land clearing activities. Construction activities associated with the proposed project are limited to auger drilling for the panel footings, and creating the access road and perimeter road; thus, minimal soil disturbance on the project site is expected.

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to soil loss or erosion would be addressed through future project-specific analysis.

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<sup>23</sup> California Department of Conservation. *Geologic Hazards Data & Maps*. Available at: <https://maps.conservation.ca.gov/geologichazards/>. Accessed November 1, 2019.

The proposed project includes a plan for revegetation by re-seeding the site with native grasses under the solar panels. Revegetation reduces the risk of erosion because plants and their root systems act as a soil support network. As a result, the project would have a **less-than-significant** impact related to soil erosion or the loss of topsoil.

- d. Expansive soils can undergo significant volume change with changes in moisture content. Specifically, such soils shrink and harden when dried and expand and soften when wetted. Highly expansive soils prone to shrink/swell activity could have adverse effects on structures constructed on such soils. Per the United States Department of Agriculture Web Soil Survey, the project site is 61.6 percent Altamont clay, 35.2 percent Dibble-Los Osos clay loams, and 3.2 percent Rincon clay loam.<sup>24</sup> The foregoing clay soils have the potential to be expansive. Although on-site soils are considered expansive, potential property damage would be minimal because the proposed project does not involve extensive use of concrete or paving or the construction of any buildings. The lack of residences or permanent employees on the site ensures that risks to human safety would be negligible, but the risk of property damage would still exist. If soil settling or contraction were to occur on-site, the proposed solar racking and foundation systems may be compromised, and damage to the solar arrays could follow.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential risks of damage as a result of building on expansive soils would be addressed through future project-specific analysis.

Given the existence of potentially expansive soils within the project site and potential damage to the proposed solar arrays, a **potentially significant** impact could occur related to proposed structures being located on expansive soil.

#### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impacts to a **less-than-significant** level. The mitigation measure below applies to the proposed solar installation.

- VII-1. *Prior to construction, a site-specific, design level geotechnical investigation shall be required to identify geologic hazards and provide recommendations to mitigate any such hazards in the final design of the proposed project. The analyses would be completed in accordance with applicable City ordinance and policies and consistent with the most recent version of the California Building Standards Code, which requires structural design that can accommodate ground accelerations expected from known active faults. The geotechnical investigation report shall evaluate the potential for ground shaking, liquefaction, expansive soils, and landslide hazards and shall include recommendations to ensure slope stability. The investigation shall be conducted by a California registered engineer or a certified engineering geology and all recommendations made in the investigation report shall be incorporated into the proposed project design*

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<sup>24</sup> United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed November 5, 2019.

*specifications. A summary of the geotechnical report shall be submitted to the City of Benicia Community Development Department.*

- e. The proposed project would not include installation of septic systems on-site. Thus, the project would have **no impact** related to soils incapable of adequately supporting septic tanks.
- f. The project site is located on previously undeveloped land with no known unique paleontological or geological features. Construction activity would be limited and only a small overall portion of the project site would be disturbed.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to geological and paleontological resources would be addressed through future project-specific analysis.

Despite the limited amount of proposed ground-disturbing activity included in the project, if a unique paleontological resource or unique geologic feature were to be found during construction, a **potentially significant** impact could occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impacts to a less-than-significant level.

- VII-2. *Prior to the approval of the grading plans, the project's improvement plans shall include a note indicating that if any unique paleontological or geological features are identified during ground-disturbing activities associated with the proposed project, all work within 100-feet of the finding shall be halted until a qualified paleontologist or geologist can review and assess the nature of the find. No ground disturbing work in the vicinity of the find shall occur until the resource has been evaluated. The paleontologist or geologist shall be required to submit a report of findings to the City's Community Development Department for review.*

**VIII. GREENHOUSE GAS EMISSIONS.**

*Would the project:*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

a, b. Greenhouse gases (GHGs) are the atmospheric gases whose absorption of solar radiation is responsible for the greenhouse effect that contributes to global climate change. Emissions of GHGs are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on earth. An individual project’s GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

The proposed project is located within the jurisdictional boundaries of BAAQMD. BAAQMD’s approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. BAAQMD does not currently list a threshold of significance for construction GHG emissions, and the threshold of significance for operational GHG emissions is 1,100 MTCO<sub>2</sub>e/yr.

The primary source of GHG emissions resulting from the proposed project would be from construction activities, particularly emissions associated with the transport of materials to the project site. Emissions from construction would be minimal because the project would not require mass grading or extensive soil hauling. Further, construction would be short-term compared to the lifetime of the proposed project. PG&E’s expected CO<sub>2</sub> emission factor for the operational year of 2021 is 281.31 lb/MWh. By using this emission factor and converting the units from lb/hr to tons/yr, the proposed 5-Megawatt solar installation would reduce GHG emissions by approximately 6,100 MTCO<sub>2</sub>e/yr by replacing natural gas/coal/fossil fuel-generated electricity with solar-generated electricity. This large emissions reduction would offset the project’s construction emissions, and would cause a net overall reduction in GHGs. Because GHG emissions would be negative, the proposed project would be considered to have a positive impact on global climate change and would be beneficial to the environment.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts related to GHG emissions would be addressed through future project-

specific analysis. However, future solar installations would also often carbon-generated electricity generation, and would contribute to an overall reduction in GHG emissions.

As described above, the proposed project would generate a minor amount of GHGs initially from construction, but would reduce a much larger volume of GHG emissions over the project lifetime. The GHG emissions would occur over a short period of time, and would cease upon the completion of construction activities. BAAQMD does not currently have a threshold of significance for GHG emissions during construction. Long-term project operations would include production of renewable energy, thereby offsetting potential GHG emissions that would otherwise occur associated with PG&E energy production. Therefore, the proposed project would not generate substantial GHGs nor conflict with any existing laws, plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs, and a ***less-than-significant*** impact would occur.

**IX. HAZARDS AND HAZARDOUS MATERIALS.**

*Would the project:*

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

**Discussion**

a. Solar facilities are not typically associated with the routine transport, use, disposal, or generation of hazardous materials. Maintenance and operation of the facility may use common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Based on the results of a study completed by the North Carolina Clean Energy Technology Center regarding the health concerns associated with utility-scale PC projects, issues related to toxicity, electromagnetic fields, electric shock and arc flash, and fire risk associated with such projects were determined not to pose a substantial risk to public health or safety.<sup>25</sup>

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to hazards or hazardous resources would be addressed through future project-specific analysis.

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25 Cleveland, Thomas H. *Health and Safety Impacts of Solar Photovoltaics: A California-Focused Forward to the Health and Safety Impacts of Solar Photovoltaics white paper published by the N.C. Clean Energy Technology Center at North Carolina State University in May 2017.* July 29, 2019.

Based on the above, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a **less-than-significant** impact would occur.

- b. Construction activities associated with the proposed project could involve the use of various products such as concrete, paints, and adhesives. In addition, heavy-duty construction equipment operating on the project site would contain hydraulic fluid, diesel fuel, and other petroleum products. Small quantities of such potentially toxic substances would be used at the project site and transported to and from the site during construction. However, the project contractor would be required to comply with all California Health and Safety Codes and local County ordinances regulating the handling, storage, and transportation of hazardous and toxic materials.

A Phase I ESA was prepared for the proposed project site by HEI Corporation.<sup>26</sup> The Phase I ESA included a survey of the site and a review of historical documentation, aerial photography, regulatory agency files, and environmental site radius reports. According to the Phase I ESA, the project site has never been developed with any permanent structures.

Per the Phase I ESA, hazardous materials or hazardous wastes were not identified on the project site. The project site is not included on the leaking underground storage tank (LUST) list or spills, leaks, investigations, and cleanups (SLIC) list. While a hazardous waste treatment, storage, and disposal facility, called the Panoche Facility, was located 0.3-mile to the northeast of the site, the facility does not qualify for inclusion onto the National Priority List. The Panoche Facility site was a hazardous waste disposal site from 1968 to 1986, and is now undergoing post-closure activities such as routine inspections, maintenance, and periodic groundwater sampling and monitoring, and thus, is unlikely to affect the environmental condition of the project site. Results of a Vapor Encroachment Screening (VES) conducted as part of the Phase I ESA indicate that vapor intrusion or vapor encroachment is unlikely at the project site.

As discussed previously, the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Any potential impacts related to the release of hazardous materials would be addressed through future project-specific analysis.

Based on the above, the project site is not associated with any historical recognized environmental conditions, including contaminated soils, that would pose a risk to the proposed project. Therefore, development of the proposed project would result in a **less-than-significant** impact related to the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

- c. The nearest school relative to the project site is the Matthew Turner Elementary School, located approximately 1.2-mile southwest of the site. In addition, as noted above,

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<sup>26</sup> HEI Corporation. *Phase 1 Environmental Site Assessment – Undeveloped Pasture Land 88.54 Acres on the North side of Lake Herman Road Benicia, California*. July 2019.

development of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, but any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Therefore, any future solar installations to be built near an existing or proposed school would require project-specific analysis.

Based on the above, **no impact** would result relating to the emission or handling of hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- d. The Phase I ESA indicates that the project site is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

As discussed previously, while the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential risks related to development on hazardous material sites would be addressed through future project-specific analysis.

Therefore, **no impact** would result from implementation of the proposed project.

- e. The public airport nearest to the project site is the Buchanan Field Airport, located approximately 8.4 miles south of the project site at 550 Sally Ride Drive. The project site is located well outside of the Airport Influence Area (AIA) identified for the airport in Chapter 3 of the Contra Costa County Airport Land Use Compatibility Plan.<sup>27</sup> In addition, the Federal Aviation Administration conducted an aeronautical study for the proposed project and concluded that the proposed solar installation would not pose a hazard to air navigation.<sup>28</sup> As discussed in Section I, Aesthetics, of this IS, the project site is within Zone D of the Travis Air Force Base Land Use Compatibility Plan, but no adverse effects would result from construction of the proposed solar facility.

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts on nearby airports would be addressed through future project-specific analysis.

Based on the discussion above, the proposed project would not result in an airport-related safety hazard for people residing or working in the project area, and **no impact** would occur.

- f. Implementation of the proposed project would not result in any substantial modifications to the City's existing roadway system and would not interfere with potential evacuation or response routes used by emergency response teams. Additionally, the proposed project

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<sup>27</sup> Contra Costa County. *Contra Costa County Airport Land Use Compatibility Plan*. December 2000.

<sup>28</sup> Federal Aviation Administration. *Determination of No Hazard to Air Navigation*. April 12, 2019.

would not add a substantial amount of traffic to area roadways; thus, the proposed project is unlikely to impact evacuation efforts.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to emergency response plans or evacuation plans would be addressed through future project-specific analysis.

Therefore, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and a **less-than-significant** impact would occur.

- g. Per the California Fire Hazard Severity Zone Map, the project site falls within a Local Responsibility Area that is identified as a High Fire Hazards Severity Zone.<sup>29</sup> The area to the north of the site, beyond the City limits, is located within a State Responsibility Area and is rated as a High Fire Hazards Severity Zone.<sup>30</sup> While the project site is located in High Fire Hazard Zone, the project would not include development of any habitable structures or other uses that would be susceptible to fire risk. The structures onsite would be limited to the proposed solar panels, and two power stations mounted on concrete pads. In addition, all new power lines associated with the proposed project would be built underground. When power lines are overhead, high winds can cause electrical equipment to break or spark, leading to an increased fire risk. However, because the power lines for the proposed project would be underground, the potential risk of fire during high wind events would not be impacted, and the demand for fire protection would not increase. The site would be routinely maintained to ensure that all equipment is operating properly, and to mow on-site vegetation in the vicinity of the proposed solar installation.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential wildfire risks would be addressed through future project-specific analysis.

Based on the above, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a **less-than-significant** impact would occur.

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<sup>29</sup> CAL FIRE Fire and Resource Assessment Program. *Draft Fire Hazard Severity Zones in LRA, Solano County*. September 17, 2007.

<sup>30</sup> CAL FIRE Fire and Resource Assessment Program. *Fire Hazard Severity Zones in SRA, Solano County*. November 7, 2007.

**X. HYDROLOGY AND WATER QUALITY.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

a. Construction of the proposed project would involve relatively minimal ground disturbance, limited to approximately 0.7-acre associated with a gravel access road and two concrete pads for power stations. Per the City’s requirements, a minimum setback of 25 ft would be maintained from all streams and channels to ensure runoff from the project site would infiltrate underlying soils before reaching the aquatic feature. Construction would not result in substantial wind or water erosion and, therefore, would not discharge polluted sediment.

The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres. With the construction of impervious surfaces, trenching for electrical lines, and land clearing, the total land disturbance resulting from the proposed project would be greater than one acre, and the proposed project would be subject to applicable SWRCB regulations.

Per the Stormwater Control Plan (SWCP) prepared for the project, an 11-ft-wide grass-covered depression would be provided along the outer edge of the proposed access road to collect stormwater runoff from the gravel surface.<sup>31</sup> Similarly, stormwater runoff from the proposed power stations would drain to a vegetated self-treating area. Throughout the remainder of the site, stormwater runoff from the proposed dirt perimeter road and the

<sup>31</sup> Anderson Pine Corporation. *Stormwater Control Plan for a Regulated Project, Lake Herman Solar*. July 2019.

proposed solar array would infiltrate underlying soils. All on-site runoff would be retained and treated by on-site soils, and water quality would not be affected. During routine panel-washing, the runoff would be absorbed by the surrounding soils. Any excess runoff would drain towards the perimeter of the site, into the vegetated self-treating area.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to hydrology and water quality resources would be addressed through future project-specific analysis.

Based on the above discussion, the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Thus, a ***less-than-significant*** impact would occur.

- b,e. The proposed project consists of a solar farm and, thus, project operations would not have any water demand or require access to the City's water supply. The only water demand associated with the proposed project would be for routine panel-washing, and such water would be trucked onto the site. The proposed project would not require pumping of any groundwater. Further, construction of the gravel access road and two concrete pads for power stations are the only impervious surfaces associated with the proposed project. The solar panels are technically impervious, but are elevated and surrounded by pervious grass-covered land and therefore not considered new impervious surface area. Thus, the project would not impede groundwater recharge.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to groundwater would be addressed through future project-specific analysis.

Therefore, the proposed project would result in a ***less-than-significant*** impact with respect to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. In addition, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

- ci-iii. As noted in the SWCP, implementation of the proposed project would involve the creation of approximately 0.7-acre (30,480 square feet) of new impervious surface area, including 0.014-acre associated with the two power stations mounted upon concrete pads and 0.69-acre associated with the proposed 20-ft wide gravel access road.

As part of the Clean Water Act, all municipalities within Solano County are required to develop surface water control standards for new development projects as part of the renewal of the Countywide NPDES permit. Known as the "C.3 Standards", new development and redevelopment projects that create or replace 10,000 or more sf of impervious surface area must contain and treat stormwater runoff from the site. Because the proposed project would create more than 10,000 sf of impervious surface area, the proposed project would be considered a C.3 regulated project and is required to include

appropriate site design measures, source controls, and hydraulically-sized stormwater treatment measures.

The SWCP prepared for the proposed project incorporates the most recent Stormwater C.3 Guidebook and all applicable City stormwater requirements. As noted in the SWCP, stormwater draining off of the concrete pads would be absorbed by the surrounding grass-covered area. Stormwater draining off of the gravel road would be diverted into an 11-ft wide grass-covered swale. The grass-covered, pervious area throughout the site would control for erosion from water coming off of the solar panels. All other land on the project site is considered self-retaining with regard to water runoff. Maintenance of the swale would include mowing and inspection for long-standing water, damage, or debris accumulation. The project site includes a 25 ft setback from the nearby ephemeral tributary, and thus, the design allows stormwater to be absorbed before the water would reach the waterway.

Although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to stormwater runoff would be addressed through future project-specific analysis.

The SWCP for the proposed project demonstrates that the proposed project would adequately manage all stormwater runoff from the project site. With proper management of the project site, a **less-than-significant** impact would occur with respect to substantially altering 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, siltation, or flooding on- or off-site, creating or contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or providing substantial additional sources of polluted runoff.

- civ. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project site, the project site is located within an Area of Minimal Flood Hazard (Zone X).<sup>32</sup> The site is not classified as a Special Flood Hazard Area or otherwise located within a 100-year or 500-year floodplain.

The project includes the aforementioned proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, but any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts related to flood flows would be addressed through future project-specific analysis.

Based on the discussion above, development of the proposed project would not impede or redirect flood flows and **no impact** would result.

- d. As discussed under question 'civ' above, the project site is not located within a flood hazard zone. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action set up in a large closed body of water such as a lake or reservoir. The project site is not located in proximity to a

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<sup>32</sup> Federal Emergency Management Agency. *Flood Insurance Rate Map 06095C0635E*. Effective May 4, 2009.

coastline and would not be potentially affected by flooding risks associated with tsunamis. Seiches do not pose a risk to the proposed project, as the project site is not located adjacent to any large bodies of water.

Although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential risks of flooding, tsunami, or seiche would be addressed through future project-specific analysis.

Based on the above, the proposed project would not pose a risk related to the release of pollutants due to project inundation due to flooding, tsunami, or seiche, and ***no impact*** would occur.

**XI. LAND USE AND PLANNING.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

- a. A project risks dividing an established community if the project would introduce infrastructure or alter land uses so as to change the land use conditions in the surrounding community, or isolate an existing land use. Currently, the project site is surrounded by open land, and Lake Herman Road runs along the southern border. One residence is located 300 feet west of the project site, and a neighborhood of single-family residences exists to the south, over 2,500 feet away. Because the project is surrounded by primarily undeveloped land, the project would not isolate an existing land use.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential risks of physically dividing a community would be addressed through future project-specific analysis.

As such, the proposed project would not physically divide an established community, and a **less-than-significant** impact would occur.

- b. The project site is currently designated General Open Space per the City’s General Plan and is zoned OS. Although solar utilities are not currently allowed in OS areas, the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City. Under the proposed Zoning Text Amendment, development of solar utilities in areas zoned OS would require approval of a Use Permit. Furthermore, any future solar development within areas designed OS would be subject to project-specific CEQA review prior to approval of use permits. Consequently, any potential impacts to land use and planning would be addressed through future project-specific CEQA analysis.

As discussed throughout this IS/MND, the proposed project would not result in any significant environmental effects that cannot be mitigated to a less-than-significant level by the mitigation measures provided herein. In addition, the proposed project would not conflict with City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect, including, but not limited to, the City’s noise standards, applicable stormwater regulations, and water quality standards. Therefore, the proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. Therefore, a **less-than-significant** impact related to any land use plan, policy, or regulation would occur.

**XII. MINERAL RESOURCES.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>

**Discussion**

a,b. One mineral resource area is located in the City of Benicia’s Planning Area, and the area was designated by the State of California as a Mineral Resource of Regional Significance. The area, located in the Sulfur Springs Mountains, west of Lake Herman, includes a deposit of igneous rock and an associated quarry. The project site is not within the mineral resource area. Therefore, the proposed project complies with City of Benicia General Plan Policy 3.25.1, which states that the mineral resource area on Sulphur Springs Mountain is maintained as an open space. Additionally, Policy 3.26.4 states that extraction of mineral resources outside of the State-designated area is prohibited.<sup>33</sup> Thus, the project site could not be used for mineral extraction.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to mineral resources would be addressed through future project-specific analysis.

Based on the analysis above, the proposed project would not result in the loss of availability of a known mineral resource or a locally important mineral recovery site. Thus, the proposed project would have **no impact** to mineral resources.

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<sup>33</sup> City of Benicia. *Benicia General Plan: From 1847 Into the 21st Century* [pg. 138]. June 15, 1999.

**XIII. NOISE.**

*Would the project result in:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

- a. Construction activities would be the primary source of noise associated with the proposed project. The solar panels would be supported by a steel racking system driven into the ground, and the driving process is expected to cause temporary noise. The City of Benicia does not implement limitations specific to construction noise, but instead limits hours of construction activities to less sensitive daytime hours. Per Chapter 8.20.150 of the City of Benicia Municipal Code, any construction projects within 500 feet of a residential zone must comply with the allowable construction hours. The closest residence is approximately 300 feet away from the project site and, thus, construction activities would be required to comply with the noise regulations included in Chapter 8.20 of the Municipal Code.

Operation and maintenance of the proposed project would introduce noise associated with moving parts of the rotating panels and general maintenance activities such as mowing grasses, occasional cleaning, motor repair, panel replacement, etc. The small motors used to rotate the panels would produce very low levels of noise, and would be imperceptible from nearby residences because noise dissipates with distance. Similarly, the proposed pad-mounted power stations are small in scale and located over 300 feet from the closest residence, minimizing potential noise impacts. Maintenance activities would be infrequent, occurring only six times per year, and would occur only during daylight hours. The project would not include dwellings or other building development, and would not have the potential to generate any significant additional vehicle trips after construction is completed.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Future solar installations would likely require minimal construction activity and operational noise, similar to the proposed project. Future solar projects within the City would also be subject to the Municipal Code Chapter 8.20 noise regulations and, thus, would not be likely to cause an impact to ambient noise. However, any potential impacts to noise generation would be addressed through future project-specific analysis.

Thus, the proposed facility is not expected to generate noise in excess of City noise standards, and noise generated by operations of the proposed project would not be

audible at nearby residences. A substantial permanent increase in noise levels in the project vicinity would not occur, impacts would be considered **less-than-significant**.

- b. Some groundborne noise and vibration could occur during construction of the proposed project, primarily during driving of the steel support piers into the ground. The nearest structure is a residence located over 300 feet outside of the project site, and because groundborne noise and vibration dissipate with distance, the residence is not expected to experience a perceptible increase in groundborne noise or exposure to groundborne vibration. Furthermore, the construction process would be relatively short-term compared to the lifetime of the solar installation. Sources of vibration would not exist during project operations, and no impact is expected.

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Operations of solar utilities is not typically associated with groundborne vibrations, but construction may cause temporary noise and vibration. Future CEQA analysis would assess potential groundborne vibration and consider proximity to existing structures. Consequently, any potential future impacts to groundborne vibrations would be addressed through project-specific analysis.

Based on the above, the proposed project would not cause excessive groundborne vibration or groundborne noise levels, and the impact is expected to be **less-than-significant**.

- c. The project site is not located within the vicinity of a public airport or a private airstrip and is not within an airport land use plan. However, the project also includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City. Any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Future solar installations could potentially be located within the vicinity of a public airport, private airstrip, or airport land use plan, but impacts would be addressed in future project-specific analysis.

Based on the discussion above, the proposed solar installation would not be exposed to excessive air traffic noise, and a **less-than-significant** impact would occur.

<b>XIV. POPULATION AND HOUSING.</b> <i>Would the project:</i>	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>

**Discussion**

a-b. The proposed project consists of the development of a 5-Megawatt solar PV array facility that would be operated remotely and would only require periodic maintenance visits. Development of the proposed project would not directly induce population growth in the area. The project would not create or increase the demand for any new housing or employment opportunities within the City of Benicia, nor would the project displace any existing housing or people.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to population and housing resources would be addressed through future project-specific analysis.

Based on the discussion above, the proposed project is expected to cause ***no impact*** related to population and housing.

**XV. PUBLIC SERVICES.**

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

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✗</b>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✗</b>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✗</b>	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✗</b>	<input type="checkbox"/>
e. Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✗</b>	<input type="checkbox"/>

**Discussion**

a. The City of Benicia Fire Department provides fire suppression, fire prevention, basic and advanced life support medical services, technical rescue services, disaster preparedness, and weed abatement services within City limits. The proposed project is within the City limits, and the Benicia Fire Department would provide the aforementioned services to the project site. The proposed project does not include any structures designed for human occupancy and does not involve the use of hazardous or flammable materials that would increase the demand for fire protection services. In addition, all new power lines associated with the proposed project would be built underground. When power lines are overhead, high winds can cause electrical equipment to break or spark, leading to an increased fire risk. However, because the power lines for the proposed project would be underground, the potential risk of fire during high winds would not be impacted, and the demand for fire protection would not increase.

The project also includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Future solar installations within the City would also be serviced by the Benicia Fire Department, but because solar installations typically do not include structures designed for human occupancy or use flammable materials, a substantial impact is not expected. Any potential impacts to fire protection services would be addressed through future project-specific analysis.

The proposed project is not expected to cause significant degradation to response times or service ratios, which would induce the need for physically altered or expanded governmental facilities, the construction of which could cause significant environmental impacts. Thus, the current services would be adequate to serve the proposed project, and impacts to fire protection services would be considered **less-than-significant**.

b. Law enforcement services are provided by the City of Benicia Police Department within the City's sphere of influence. Because the proposed project does not include any structures designed for human use, such as residential, commercial, or industrial structures, the demand for police protection services would not significantly increase. Furthermore, the perimeter of the project site would be fenced, reducing the risk of trespassing and potential crime that would require police presence. Thus, the project

would not result in need for new or expanded government facilities in order to maintain acceptable response times.

Although the project includes the proposed Zoning Text Amendment discussed above, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to police services would be addressed through future project-specific analysis. However, considering the unmanned nature of such projects, an adverse effect on police resources is not expected as a result of future solar installations.

For the reasons discussed above, the current services would be adequate to serve the proposed project. The proposed project would not induce the need for physically altered or expanded governmental facilities, the construction of which could cause significant environmental impacts, and impacts related to police protection would be considered ***less-than-significant***.

- c-e. The proposed project would not introduce new residents to the project site or otherwise increase the population of the project area, hence the project would neither directly nor indirectly result in an increased demand for schools, parks, or other public facilities.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to schools, parks, or public facilities would be addressed through future project-specific analysis. Because future solar installations are not likely to include new residences, an impact on the aforementioned facilities is not expected.

Based on the above, impacts related to the need for new or physically altered schools, parks, and other public facilities would be considered ***less-than-significant***.

**XVI. RECREATION.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>

**Discussion**

a, b. A large-scale PV system is not considered a recreational facility, and thus, construction of the proposed project would not involve construction or expansion of any recreational facilities. The proposed project would not increase the use of existing local parks or recreational facilities because the proposed facility is not expected to attract visitors. While the project site is near the Lake Herman recreational area, existence of the proposed project would not impact public use of the Lake.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to recreation resources would be addressed through future project-specific analysis.

Based on the discussion above, the proposed project would not result in an increased demand for new or expansion of any existing recreational facilities, and ***no impact*** to recreational facilities would occur.

**XVII. TRANSPORTATION.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

- a. Due to the rural nature of the project area, significant public transit facilities, bike lands, and sidewalks do not currently exist in the immediate vicinity of the project site. The proposed roads associated with the project (access road and perimeter road) would be within the project site, and would not impact the surrounding traffic infrastructure. Because the project design does not include any measures that would influence transportation networks, the project is not expected to conflict with any local programs, plans, or policies regarding circulation. The following discussion includes a more detail regarding each phase of the proposed project and the associated potential impacts to transportation.

**Construction**

During construction, an increase in traffic along Lake Herman Road would occur due to trucks transporting construction equipment and project materials to the project site and employees commuting to the site. However, construction of the proposed facility would be relatively short-term compared to the lifetime of the proposed project, as construction is anticipated to take two years. Furthermore, construction of the proposed project is limited to installing the panels and building two on-site roads, and impacts to traffic would be equally limited compared to large-scale construction projects. Due to the small project size and temporary nature of construction, the minor increase in traffic along Lake Herman Road would not cause a substantial impact to transportation infrastructure.

**Operations**

Because the proposed project would not have permanent employees on-site during operations, project implementation would not result in an increase in demand or decline in performance for public transit, bicycle, or pedestrian facilities. The only increase in traffic during operations of the facility would be the six annual maintenance visits, for a total of twelve vehicle trips per year, which would be a negligible increase in traffic along Lake Herman Road.<sup>34</sup>

**Zoning Text Amendment**

Although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential conflicts to policies regarding the circulation system would be addressed through future project-specific

<sup>34</sup> Renewable Properties, LLC. *Lake Herman Solar – Traffic Analysis – 7.29.19*. July 2019.

analysis. However, future solar installations would likely require limited, short-term construction and minimal operations as well, and a substantial impact to traffic is not expected.

### **Conclusion**

Based on the lack of current circulation infrastructure in the project area and the minimal traffic associated with construction and operations of the proposed project, the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and a **less-than-significant** impact would occur.

- b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Per Section 15064.3, analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. While a qualitative discussion of VMT has been provided below, the provisions of Section 15064.3 apply only prospectively; determination of impacts based on VMT is not required Statewide until July 1, 2020.

Per Section 15064.3(3), a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, the method of analysis does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving.

VMT related to the proposed project would be due to project construction, and operational maintenance visits upon completion of construction. Vehicle trips associated with such construction would include transporting materials (solar panels, panel racks, etc.) to the project site along with employee commutes. As discussed in section (a), construction of the proposed facility would be relatively short-term compared to the lifetime of the proposed project. Due to the temporary nature of construction, the small increase in VMT would not cause a substantial impact to transportation. Maintenance activities would be conducted six times per year and would require one vehicle to drive to the site. The 12 annual trips provide a negligible increase to VMT along Lake Herman Road.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to transportation would be addressed through future project-specific analysis. However, solar utilities are not typically associated with increased vehicle traffic after completion of construction, and a significant impact to transportation as a result of potential future solar facilities is not expected.

Based on the above, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a **less-than-significant** impact would occur.

- c. The proposed project would not include design features that would affect traffic safety, nor would it cause incompatible uses to be present on local roads. Construction of new public

roads is not proposed as part of the project, and a significant increase in traffic is not projected during project construction or operations.

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts regarding increased hazards or incompatible uses would be addressed through future project-specific analysis.

Significant adverse impacts related to roadway design features or incompatible uses would not result from implementation of the proposed solar project, and ***less-than-significant*** would occur.

- d. The proposed project would not result in inadequate emergency access to the project area. During project construction, public roads would remain open and available for use by emergency vehicles and other traffic. The project site would be accessible by way of the entrance road from Lake Herman Road, and the road would be wide enough to accommodate emergency vehicles. The internal roadway and perimeter roads would be sized to properly accommodate emergency vehicles that may require circulation of the project site.

Although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts regarding adequate access for emergency vehicles would be addressed through future project-specific analysis.

The proposed project would not result in any road closures and would include on-site roads of appropriate size to accommodate emergency vehicles, and a ***less-than-significant*** impact to emergency access would occur.

**XVIII. TRIBAL CULTURAL RESOURCES.**

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

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

a,b. A search of the NAHC Sacred Lands File did not yield any information regarding the presence of cultural resource within the project site or the immediate area. The project site and surrounding land is currently used as grazing land, and evidence of previous structures was not found.

In compliance with AB 52 (Public Resources Code Section 21080.3.1), a project notification letter was distributed to the Cortina Rancheria – Kletsel Dehe Band of Wintun Indians, United Auburn Indian Community of the Auburn Rancheria, and Yocha Dehe Wintun Nation on November 8, 2019. The Yocha Dehe Wintun Nation responded with a request for consultation, and the consultation is currently ongoing.

Based on the known history at the project site and the lack of identified cultural resources at the site, known Tribal Cultural Resources do not exist within the site. Nevertheless, the possibility exists that construction of the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource if previously unknown tribal cultural resources are uncovered during ground-disturbing activities.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential impacts to tribal cultural resources would be addressed through future project-specific analysis.

Based on the above, a **potentially significant** impact to Tribal Cultural Resources could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level. The following mitigation measure applies only to the proposed solar installation.

*XVIII-1 Implement Mitigation Measures V-1, V-2, and V-3.*

**XIX. UTILITIES AND SERVICE SYSTEMS.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

- a. New wastewater treatment, natural gas, and telecommunication facilities would not be required due to construction of the proposed project because the project would not increase demand for any of the aforementioned service systems. The proposed solar facility would generate electric power, and would connect to existing electrical infrastructure located within the immediate project vicinity. The connection to the existing electrical cables would involve minimal construction and would not involve relocation of existing facilities.

The project design includes plans to manage stormwater, such as an 11-ft vegetated swale alongside the gravel access road. In addition, construction of the project would include the conversion of less than one acre of land to impervious surface area. Considering the entire project site is over 35 acres, the new 0.7 acre of impervious area would not cause a substantial impact. Thus, stormwater would not increase in such a way as to require relocation or construction of stormwater drainage infrastructure.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to water access, wastewater treatment, stormwater drainage, natural gas, or telecommunication facilities would be addressed through future project-specific analysis.

Based on the discussion above, a **less-than-significant** impact to the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities would occur.

- b. The proposed project would be operated remotely and would require maintenance only approximately six times a year; thus, the project would not require on-site water service to meet employee demand. Water demand would increase slightly during project construction activities and during operations for washing the solar panels during maintenance visits, but this demand would be met by trucking in water to the site, rather than provision of water service at the site. Due to the infrequency of maintenance visits and the temporary nature of project construction, the increase in water demand would be considered minimal.

Although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to water supply would be addressed through future project-specific analysis. Moreover, future solar projects are likely to create similarly low water demand, and would not be anticipated to greatly increase water demand in the City.

Based on the above, sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years, and a **less-than-significant** impact would occur.

- c. The proposed project would not require any on-site employees, and thus, there would not be demand for wastewater treatment. An outside wastewater treatment provider would not be necessary, and no impact regarding the project's demand on wastewater treatment capacity would occur.

Although the project includes a proposed Zoning Text Amendment, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to wastewater treatment facility capacity would be addressed through future project-specific analysis.

As stated in the discussion above, the proposed solar installation would not require an outside waster treatment provider. Therefore, the project would not influence a wastewater treatment provider's capacity to serve the project's projected demand, and a **less-than-significant** impact would occur.

- d,e. Solid waste generated by the proposed project would be composed of construction-related solid waste and any waste collected from periodic maintenance visits. The quantity of solid waste generated by the proposed project is expected to be nominal, as demolition, which is typically the bulk of construction waste, would not be required. Any solid waste generated by construction activities would likely be hauled to the Republic Services Contra Costa Transfer Station in Martinez for waste disposal. Republic Services is one of the largest providers of solid waste collection, and the nominal amount of waste associated with the proposed project is not expected to impact landfill capacity. Any solid waste collected during maintenance visits would be removed by maintenance personnel and disposed of at an approved location.

The proposed project would be required to comply with all federal, state, and local statutes and regulations related to solid waste production. The project would not result in long-term solid waste generation, and solid wastes produced during construction or during future decommission activity would be disposed of in accordance with all applicable statutes and regulations.

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to solid waste generation would be addressed through future project-specific analysis. Future solar installations would also be required to comply with all applicable federal, state, and local statutes and regulations related to solid waste production.

Because waste generated by the proposed project would be minimal, a ***less-than-significant*** impact to solid waste production would occur.

**XX. WILDFIRE.**

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

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

a-d. Per the California Fire Hazard Severity Zone Map, the project site falls within a Local Responsibility Area that is identified as a High Fire Hazards Severity Zone.<sup>35</sup> The area to the north of the site, beyond the City limits, is located within a State Responsibility Area and is rated as a High Fire Hazards Severity Zone.<sup>36</sup>

Implementation of the proposed project would not result in any substantial modifications to the City’s existing roadway system and would not interfere with potential evacuation or response routes used by emergency response teams. Additionally, the proposed project would not add a substantial amount of traffic to area roadways; thus, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan. All new power lines associated with the proposed project would be undergrounded, thereby reducing wildfire risks associated with potential windy conditions, and all on-site vegetation would be regularly maintained to reduce fire risk. As such, the project would not exacerbate wildfire risk or require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Because the project does not involve the construction of any residences or habitable structures, humans would not be at risk from wildfire, nor associated flooding/landslides, on the project site. The project site is not located within the vicinity of any existing residential uses. In addition, based on the Department of Conservation’s Geologic Hazards and Data map, the project site is not near a landslide zone.<sup>37</sup> Furthermore, the vegetation beneath the panels would anchor topsoil and further reduce the risk of a landslide. Relative to existing conditions, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

<sup>35</sup> CAL FIRE Fire and Resource Assessment Program. *Draft Fire Hazard Severity Zones in LRA, Solano County.* September 17, 2007.

<sup>36</sup> CAL FIRE Fire and Resource Assessment Program. *Fire Hazard Severity Zones in SRA, Solano County.* November 7, 2007.

<sup>37</sup> California Department of Conservation. *Geologic Hazards Data & Maps.* Available at: <https://maps.conservation.ca.gov/geologichazards/>. Accessed November 1, 2019.

The project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City. Future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts related wildfire would be addressed through future project-specific analysis. Furthermore, future solar installations are not anticipated to involve creation of substantial fire risks.

Based on the above, the project site is located within a High Fire Hazard Severity Zone. However, the proposed project would not result in substantially increased fire risks relative to existing conditions. Thus, the impact related to wildfire would be ***less-than-significant***.

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

**Discussion**

a. The proposed project would have a low potential to 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. However, the City’s incorporation of mitigation measures adopted as part of the proposed project would minimize the impacts on the environment. For example, Mitigation Measure IV-1 provides for protection of biological resources (e.g., Swainson’s Hawk, California Red-Legged Frog, etc.) that may be impacted by the proposed project.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts would be addressed through future project-specific analysis.

Based on the discussion above, impacts would be considered ***less-than-significant***.

b. This IS/MND contains mitigation measures for all potentially significant impacts to ensure that the impacts are reduced to less-than-significant levels. With the incorporation of mitigation measures, the proposed project would not result in significant or cumulatively considerable impacts, and in some cases, such as greenhouse gas emissions, would result in positive impacts and would be beneficial to the environment.

As discussed previously, although the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to CEQA review. Consequently, any potential cumulatively considerable impacts to resources associated with future solar installation in

OS areas would be addressed through future project-specific analysis. With implementation of the Mitigation Measures included herein, as well as required CEQA review for future projects, cumulative impacts would be considered ***less-than-significant***.

- c. The proposed project would comply with all applicable General Plan policies, BMC standards, other applicable local and State regulations, and mitigation measures included herein. In addition, as discussed in Section III, Air Quality, Section IX, Hazards and Hazardous Materials, and Section XIII, Noise, of this IS/MND, the proposed project would not cause substantial effects to human beings, which cannot be mitigated to less-than-significant levels, including effects related to exposure to air pollutants, hazardous materials, and excessive noise.

While the project includes a proposed Zoning Text Amendment to allow for solar utility development in areas zoned OS throughout the City, any future development of solar utilities in areas zoned OS would require approval of a Use Permit and would be subject to project-specific CEQA review. Consequently, any potential impacts to the environment or human beings would be addressed through future project-specific analysis.

Based on the discussion above, the proposed project's environmental impact on human beings would be ***less than significant***.